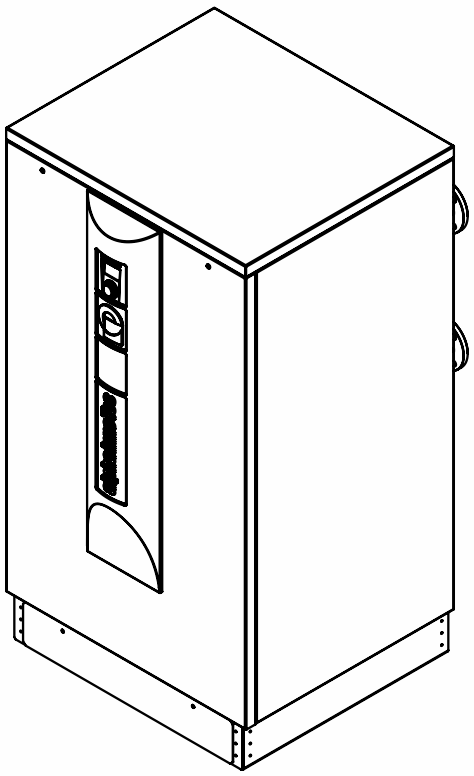
Operating Manual

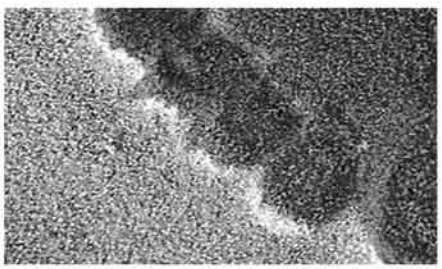
UK

WATER / WATER PROFESSIONAL

Heat pumps



WWP series



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Please read first

This operating manual provides important information on handling the unit. It is an integral part of the product and must be kept ready to hand in the immediate vicinity of the unit. It must remain available throughout the entire useful life of the unit. It must be handed over to subsequent owners or users of the unit.

Read the operating manual before starting any work on or with the unit. Especially the chapter on safety. Follow all instructions in full and unreservedly.

This operating manual may contain descriptions, which seem incomprehensible or unclear. If you have any questions or anything is still unclear, contact the factory's customer service department or the manufacturer's local partner.

As this operating manual has been written for several types of unit, always keep to the parameters that apply to the respective type of unit.

This operating manual is intended only for persons assigned to work on or with the unit. Treat all its constituent parts confidentially. They are protected by copyright. They may not be reproduced, transmitted, copied, stored in electronic systems or translated into another language, either wholly or in part, without the express written permission of the manufacturer.

Symbols

The following symbols are used in the operating manual. They have the following meaning:

Information for users.

Information or instructions for qualified personnel.

DANGER!
Indicates imminent danger, which results in severe injuries or death.

WARNING!
Indicates a potentially dangerous situation, which could result in severe injuries or death.

CAUTION!
Indicates a potentially dangerous situation, which could result in moderate or slight injuries.

IMPORTANT
Indicates a potentially dangerous situation, which could result in property damage.

NOTE.
Emphasised information.

ENERGY SAVING TIP
Indicates advice, which helps to save energy, raw materials and costs.

Reference to other sections of the operating manual.

Reference to other documents of the manufacturer.

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Intended use

The unit is only to be used for its intended purpose. This means:

- for heating.
- for domestic water heating.

The unit must be operated only within its technical parameters.

☞ "Technical data / scope of supply" overview.

NOTE.
Notify the responsible power supply company of the use of a heat pump or heat pump system.

Disclaimer

The manufacturer is not liable for any damage or losses resulting from use of the unit which is not its intended use.

The manufacturer's liability also expires:

- if work is carried out on the unit and its components contrary to the instructions in this operating manual.
- if work is improperly carried out on the unit and its components.
- if work is carried out on the unit which is not described in this operating manual, and this work has not been explicitly approved by the manufacturer in writing.
- if the unit or components in the unit have been altered, modified or removed without the explicit written consent of the manufacturer.

EC conformity

The unit bears the CE marking.

☞ EC Declaration of Conformity

Safety

The unit is safe to operate for its intended use. The construction and design of the unit conform to current state of the art standards, all relevant DIN/VDE regulations and all relevant safety regulations.
Every person who carries out work on the unit must have read and understood the operating manual before starting any work. This also applies if the person concerned has already worked with such a unit or a similar unit or has been trained by the manufacturer.

Every person who carries out work on the unit must comply with the relevant local accident prevention and safety regulations. This especially applies to the wearing of personal protective clothing.

WARNING!
Risk of fatal electric shock!
Electrical connection work must be carried out by qualified electricians only.
Before opening the unit, safely disconnect the system from the power supply and prevent it from being switched back on!

WARNING!
Only qualified personnel (trained heating, refrigerating system and refrigerant engineers and electricians) may carry out work on the unit and its components.

WARNING!
Note and follow the safety stickers on and in the unit.

WARNING!
Unit contains refrigerant!
Leaking refrigerant could result in personal injury and environmental damage. Therefore:
- **Switch off system.**
- **Thoroughly ventilate installation room.**
- **Notify the manufacturer's authorised service centre.**

IMPORTANT
For safety reasons:
Never disconnect the unit from the power supply, unless the unit is being opened.

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Customer service

For technical information please contact your local heating engineer or the manufacturer's local partner.

☞ "Customer service" overview.

Warranty / Guarantee

For warranty and guarantee provisions, please refer to your purchase documents.

NOTE.
Please contact your dealer about all matters concerning warranties and guarantees.

Disposal

When withdrawing the old unit from service, always comply with the relevant local laws, guidelines, directives and standards concerning the recovery, recycling and disposal of the operating materials and components of chillers.

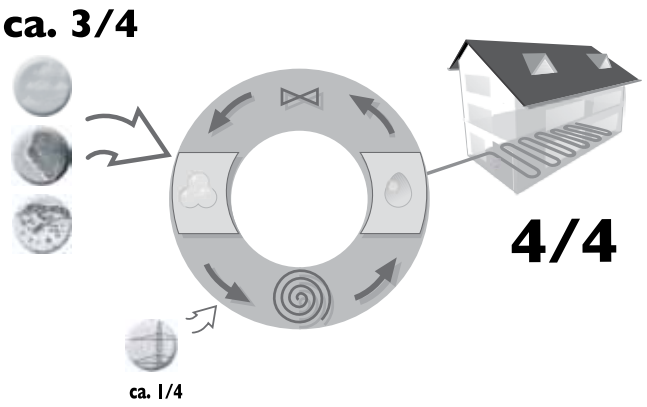
☞ "Dismantling".

How heat pumps work

Heat pumps operate on the same principle as a refrigerator: same technology, only with reversed benefits. The refrigerator draws heat from food. which is released into the room through fins on the back.

The heat pump draws heat from our environment: air, earth or ground water. The extracted heat is conditioned in the unit and supplied to the heating water. Even when it is extremely cold outside, the heat pump draws enough heat to heat a house.

Example: diagram of a brine/water heat pump with underfloor heating:



4/4 = usable energy
approx. 3/4 = environmental energy
approx. 1/4 = external electrical energy

Area of use and heat source requirements

Taking into consideration the ambient conditions, limits of use and the relevant regulations, every heat pump can be used in new or existing heating systems.

☞ "Technical data / scope of delivery" overview,

WATER TEMPERATURE / WATER QUANTITY

The water in the extraction well of the heat source system must have a minimum temperature of 7 °C all year round and may not exceed a temperature of 25°C. Depending on the heat output required or its cooling capacity as a relevant variable for dimensioning the heat source, a minimum water rate is required, which must be provided by the heat source as a continuous output. Before installing the water/water heat pump, a pump test should/must be carried out for at least 12 hours with verification of a quasi-constantly lowered water table (persistence) in order to provide information about the quantity of water available. For efficient operation of the well, during the initial start-up the nominal flow rate must be adjusted on the heat source side. Any components required to enable flow balancing are to be installed in the pipe network here. The material of the components used must be chosen according to the water quality. The necessary flow rate (heat source water rate) must meet the heat pump's requirements.

☞ "Technical data/Scope of delivery" overview.

WATER QUALITY

In Germany the well must be designed and built to DIN 4021 and VDI 4640 (in other countries according to the corresponding regulations). Wells may only be drilled and built by drilling companies with a permit in accordance with DVGW W120. The water quality of the heat source is defined as normal groundwater. Ensure that the suction and return pipe always extends below the water level by sufficient depth, to ensure that oxygen is not added to the water (risk of iron oxide deposits). Please discuss the problem of iron oxide deposits with your well builder. During the planning the quality of the groundwater should be checked in advance as well as possible (e.g. by asking the competent water authority or searching for data on existing adjacent wells) and subsequently verified by water analysis in the built production well. The following table helps to assess the water quality.

! IMPORTANT

A water analysis and pump test must be carried out before installing the water/water heat pump.

i NOTE:

Water analyses are prepared by water test laboratories. Initial information about possible use of groundwater is available from your local water management authority. A pump test provides information as to whether a sufficient quantity / rate of water is available to cover the requirements for the heating output of your unit. The minimum groundwater flow rate must at least be available as a continuous output.

☞ "Technical data/Scope of delivery" overview, "Heat source flow rate" section.

EVALUATION OF THE WATER ANALYSIS

Water constituents - minimum requirement. The water should be analysed in advance for the test values listed below (table). An important criterion to be used for taking water samples is the DVGW Standard, Technical Notices, Leaflet W 112 and use of the technical rules listed in it (DIN, EN and ISO standards).

Designation	Limit
pH value	> 6.8
Iron level	< 0.2 mg / l
Manganese level	< 0.1 mg / l
Chloride level	< 300 mg / l
Level of free chlorine	< 3 mg / l
Turbidity	none
Technical freedom from sand	< 0.1 mg / l sand per 10 l pumped water

! IMPORTANT

If a value does not conform to the value listed in the table, a water/water heat pump may not be used. Direct operation of the unit in conjunction with surface water, wastewater, industrial wastewater or mixtures of water and alkali solutions, acids or chlorine is also not allowed.

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Heat metering

In addition to proof of the system's efficiency, the EEWaermeG (German law on renewable energy heat) also requires heat metering (referred to in the following as WME). The WME is mandatory for air/water heat pumps. For brine/ water and water/water heat pumps, a WME must be installed for flow temperatures ≥ 35 °C. The WME must record the total thermal energy output (heating and domestic hot water) in the building. In the case of heat pumps with heat metering the analysis is carried out via the controller. This displays the thermal energy output into the heating system in kWh.

Operation

By deciding to purchase a heat pump or a heat pump system you are making a long-term contribution to protecting the environment through low emissions and reduced primary energy use.
You can operate and control the heat pump system with the control panel of the heating and heat pump controller.

NOTE.
Make sure that the control settings are correct.

Operating manual of the heating and heat pump controller.

To ensure that your heat pump or heat pump system operates efficiently and in an environmentally friendly way in heating mode, please pay particular attention to the following:

ENERGY SAVING TIP
Avoid unnecessarily high flow temperatures.
The lower the flow temperature on the heating water side the more efficient the system.

ENERGY SAVING TIP
Preferably use purge ventilation. Compared to continuously open windows, this form of ventilation (fully opening windows for a short period, two to three times a day) reduces energy consumption and your heating bill.

Care of the unit

You can clean the outer surfaces of the unit with a damp cloth and proprietary household cleaning products.
Do not use cleaning or care products that contain abrasives, acids and/or chlorine. Such products would irreparably damage the surfaces and could also cause technical damage to the unit.

Maintenance of the unit

The refrigerating circuit of the heat pump does not require any regular maintenance.
According to EU Regulation (EC) 842/2006 of 17.05.2006, it is necessary to carry out leak inspections and to keep a log book for certain heat pumps!
The criteria for whether or not it is necessary to perform a leak test and keep a log book are the hermetic impermeability of the refrigerating circuit and the refrigerant capacity of the heat pump! A log book is not required for heat pumps with a refrigerant capacity of < 3kg. For all other heat pumps, the log book is supplied with them.

Log book for heat pumps, “Information on using the log book” section.

The components of the heating circuit and the heat source (valves, expansion vessels, circulation pumps, filters, dirt traps) should be tested and cleaned as needed, however, at least annually, by qualified personnel (heating or refrigerating system fitters).
It is best to arrange a maintenance agreement with a heating installation company. The company will arrange the necessary regular maintenance work.

CLEANING AND FLUSHING UNIT COMPONENTS

CAUTION!
Unit components may be cleaned and flushed only by customer service personnel authorised by the manufacturer. Only use liquids recommended by the manufacturer.
After flushing the condenser with chemical cleaning agent, any residues must be neutralised and the system thoroughly flushed with water. Always note and follow the technical data of the respective heat exchanger manufacturer.

Malfunctions

In the event of a malfunction, you can detect the cause of the malfunction via the diagnostics program of the heating and heat pump controller.

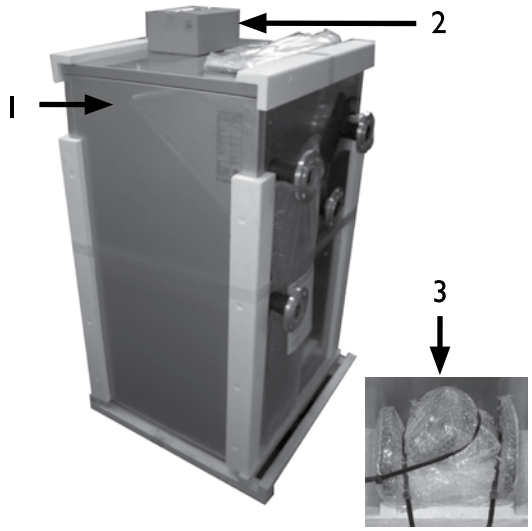
Operating manual of the heating and heat pump controller.

WARNING!
Only customer service personnel authorised by the manufacturer may carry out service and repair work on the unit's components.

"Customer service" overview.

Scope of delivery

Example layout of the scope of delivery:



1 Compact unit with hermetic compressor, all safety-relevant components for refrigeration circuit monitoring, installed heating and heat pump controller, sensors installed in the unit for recording the heat source temperature as well as the hot gas, heater water flow and return temperature
2 Separate package with: External temperature sensor, control panel of the heating and heat pump controller, screws (for the cover plates on the base)
3 Grit trap (on the pallet at the rear of the unit)

Complete the following first:

① Check the delivery for outwardly visible signs of damage…

② Check to make sure that the delivery is complete… Any defects or incorrect deliveries must be reported immediately.

NOTE.
Note the unit model.

"Technical data / scope of delivery" overview.

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Installation

The following applies to all work to be done:

NOTE.
Always comply with the relevant local accident prevention regulations, statutory regulations, guidelines and directives.

WARNING!
Only qualified personnel may install and assemble the heat pump or heat pump system!

NOTE.
Note the sound information for the respective model.

☞ "Technical data / Scope of delivery" overview, "Sound" section.

INSTALLATION ROOM

IMPORTANT
Install the heat pump inside buildings only.
The installation room must be frost-free and dry.

WARNING!
Please note and follow the respective relevant local standards, guidelines, directives and regulations, especially the minimum room volume necessary depending on the quantity of refrigerant in the relevant heat pump system (EN 378-1).

Refrigerant	Limit
R 134a	0.25 kg/m³
R 404A	0.48 kg/m³
R 407C	0.31 kg/m³
R 410A	0.44 kg/m³

☞ "Technical data / scope of supply" overview, "General unit data" section.

$$\textbf{Minimum room volume} = \frac{\text{Refrigerant capacity [kg]}}{\text{Limit [kg/m}^3\text{]}}$$

NOTE.
If several heat pumps of the same type are installed, only one heat pump must be considered.
If several heat pumps of different types are installed, the heat pump with the largest refrigerant contents must be considered.

TRANSPORT TO INSTALLATION LOCATION

Always comply with the following safety information during transport:

CAUTION!
Wear safety gloves.

WARNING!
Several people are required to transport the unit. Take into account the weight of the unit.

☞ "Technical data / Scope of delivery" overview, "General unit data" section,

WARNING!
The unit can tilt and tip over when being removed from the wooden pallet and during transport. This can result in personal injury and damage to the unit.

- **Take suitable precautions to prevent the risk of tipping over.**

CAUTION!
Always secure the unit against slipping during transport.

IMPORTANT
Never use components and hydraulic connections on the unit for transport purposes.

IMPORTANT
Do not damage the hydraulic connections under any circumstances.

IMPORTANT
Do not tilt the unit more than a maximum of 45° in any direction.

To prevent transport damage, you should transport the unit to its final place of installation in its packed condition (on the wooden pallet with packaging) using a pallet truck.

① Remove packaging and set extra box aside (will be needed later on!)...

② Move the pallet truck under the unit…

NOTE.
The two openings for the pallet truck must be closed off using the cover plates supplied (two screws each).

NOTE.
Please always close off the transport openings to reduce noise!

INSTALLATION

CAUTION!
Several people are required to install the unit.

NOTE.
Take into account the size of the unit.

"Technical data/Scope of delivery" overview, "General unit data" section.

NOTE.
Always refer to and follow the installation plan for the respective model. Note the size and minimum clearances.

Installation plan for the respective model.

IMPORTANT
The heat pump must be installed on a firm, horizontal floor. Ensure that the floor is designed for the weight of the heat pump.
Do not use a rigid foam boiler pedestal

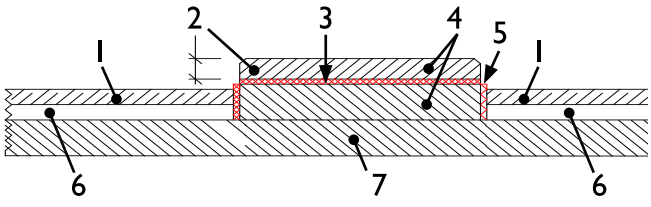
"Technical data/Scope of delivery" overview, "General unit data" section.

NOTE.
Install the unit so that the operator side is accessible at all times!

IMPORTANT
Do not tilt the unit more than a maximum of 45° in any direction.

NOTE.
The openings for the pallet truck must be closed off using the cover plates supplied!

Detailed drawing of concrete foundation:



1 Screed
2 approx. 100 mm
3 Structural borne sound insulation depending on weight of heat pump
4 Concrete foundation
5 Perimeter insulation strips
6 Impact sound insulation
7 Concrete ceiling

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Installing the hydraulic connections

DANGER!
Risk of fatal electric shock!
Before opening the unit, safely disconnect the system from the power supply and prevent it from being switched back on!

IMPORTANT
Connect the unit to the heating circuit according to the hydraulic diagram for the respective model.

"Hydraulic connection" instructions.

IMPORTANT
The heat source system must be designed according to the specifications of the planning manual.

Planning manual and "Hydraulic connection" documents.

NOTE:
Check to make sure that the cross-sections and lengths of the pipes for the heating circuit and the heat source are adequately dimensioned.

NOTE:
Circulation pumps must be designed as constant speed pumps. They must at least produce the minimum throughput required for your unit model.

"Technical data / Scope of delivery" overview, "Heating circuit" and "Heat source" sections.

IMPORTANT
The hydraulics must be equipped with a buffer tank, the volume of which depends on your unit model.

The hydraulic connections are located at the rear of the unit.

Dimensioned drawings

IMPORTANT
When installing the connections, always secure the connections on the unit against twisting, in order to prevent damage to the copper pipes inside the unit.

Proceed as follows:

① Install shut-off devices in the heating circuit…

② Install shut-off devices at the heat source…

NOTE.
By installing the shut-off devices, the evaporator and condenser of the heat pump can be flushed, if necessary.

CAUTION!
The condenser may only be flushed by customer service personnel authorised by the manufacturer.

③ Position a bleeder (vent) at the highest point of the heat source in the heat source outlet…

You must make the connection to the fixed piping via flanged expansion joints (accessories available separately for an additional charge):

The flanged expansion joints provide vibration isolation.

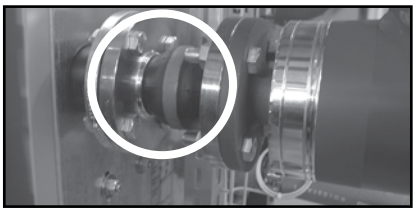
④ Always install the dirt filter included with the unit at the heat source inlet (return) connection…

The heating water and heat source connections are marked on the unit accordingly.

For the position of the connections, please refer to the dimensioned drawing for the respective model.

⑤ Screw the expansion joints onto the unit's connections until they lie against the rubber sealing collar…

⑥ Screw the expansion joints onto the fixed piping of the heat source by hand until they lie against the rubber sealing collar…



⑦ Retighten all connections by one to two turns of the thread using a suitable tool (e.g. a pipe wrench), to make them tight…

Do not over tighten. The rubber of the expansion joints must not twist (torsion). Otherwise malfunctions through to serious damage to the unit can occur.

Electrical connection work

The following applies to all work to be done:

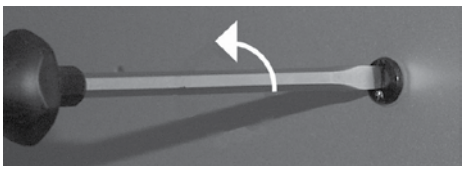
DANGER!
Risk of fatal electric shock!
Electrical connection work must be carried out by qualified electricians only.
Before opening the unit, safely disconnect the system from the power supply and prevent it from being switched back on!

WARNING!
During installation and when carrying out electrical work, comply with the relevant EN-, VDE and/or local safety regulations.
Comply with technical connection requirements of the responsible power supply company (if required by the latter)!

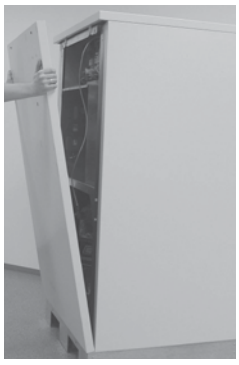
NOTE.
All live cables must be stripped before they are laid in the cable duct of the switchbox!

① Remove front panel of the unit...

② Open the quick-release screws of the front panel by turning them 90° anticlockwise…



③ Lift out the front panel and set aside in a safe place



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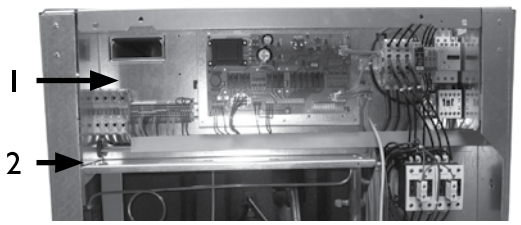
Familiarise yourself with the inside of the unit…



1 Electrical switchbox
2 Intermediate floor of the unit

④ Open the unit's electrical switchbox…
To do this, only loosen the two upper screws of the cover panel. Remove the remaining screws. The cover plate can then be removed…

⑤ Lay the load and external control and sensor cables through the cable duct to the terminals. Tighten the strain relief screws…

⑥ Install electrical connections according to the terminal diagram and the circuit diagrams.

☞ "Terminal diagrams" and "Circuit diagrams" for the respective model.

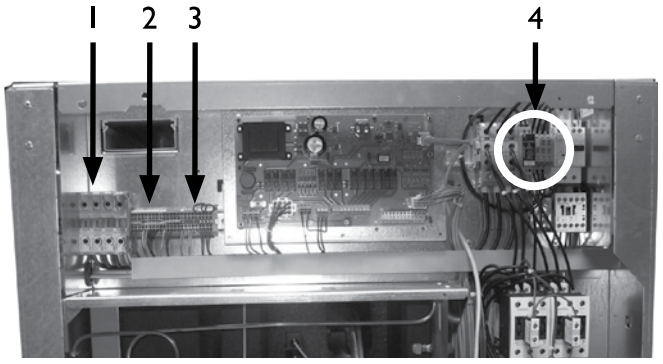
! ATTENTION!
Install electric connections only according to the terminal diagram and the circuit diagrams that apply to your model.

! IMPORTANT
Ensure clockwise rotary field of the load power supply (compressor).
– Operation with the incorrect rotary direction of the compressor can cause serious, irreparable damage to the compressor.

! IMPORTANT
Ensure the power supply of the heat pump is fitted with a 3-pole miniature circuit-breaker with at least 3mm contact gap.

Note the level of the tripping current.

☞ "Technical data / Scope of delivery" overview, "Electrics" section.



1 Compressor power connection 3~PE
2 Control connection
3 N/PE
4 Phase sequence relay

i NOTE.
The control panel of the heating and heat pump controller can be connected to a computer or network using a suitable network cable, enabling the heating and heat pump controller to be controlled remotely from there.
If this is required, install a shielded network cable (category 6, with RJ-45 connector) through the unit when installing the connections and run it through the front panel of the unit, parallel to the existing control cable of the heating and heat pump controller.

⑦ After completing all electrical installation work, close the switchbox inside the unit…

⑧ Screw on the front panel of the unit, if no further installation work inside the unit is to be carried out immediately.

Flushing and filling the system

! IMPORTANT
The system must be absolutely free from air before commissioning.

FLUSHING AND FILLING THE HEATING CIRCUIT

WATER QUALITY

OF THE FILL AND TOP-UP WATER IN WATER HEATING SYSTEMS ACCORDING TO VDI 2035 PART I AND II

Use of modern, energy-efficient heat pump systems is becoming increasingly widespread. Their ingenious technology enables these systems to achieve very good efficiencies. The decreasing space available for heat generators has led to the development of compact units with increasingly smaller cross-sections and high heat transfer capacities. This means that the complexity of the systems and the material diversity are also increasing, which plays an important role, especially in their corrosion behaviour. Alpha InnoTec ensures continuous technological advances, but all these technical refinements require the system to be operated with correctly filled heating water. The heating water not only affects the efficiency of the system, but also the life of the heat generator and the heating components of a system.

The guide values of VDI 2035 Part I and Part II must therefore be complied with as minimum requirements for proper operation of the systems. Our practical experience has shown that the safest, most reliable and fault-free running is achieved with so-called low-salt operation.

VDI 2035 Part I provides important information and recommendations regarding scaling and its prevention in heating and domestic hot water heating systems.

VDI 2035 Part II primarily deals with the requirements for reducing heating water corrosion in hot water heating systems.

PRINCIPLES OF PART I AND PART II

The occurrence of scaling and corrosion damage in hot water heating systems is low, if

- proper planning, design and commissioning is carried out
- the system is closed in corrosion terms
- adequately dimensioned pressurising is integrated
- the guide values for the heating water are complied with
- and regular servicing and maintenance are carried out.

A system log should be kept, in which the relevant planning & design data is entered (VDI 2035).

DAMAGE THAT CAN OCCUR IN CASE OF FAILURE TO COMPLY WITH THE ABOVE

- Malfunctions and the failure of components (e.g. pumps, valves)
- Internal and external leaks (e.g. from heat exchangers)
- Cross-section reduction and blocking of components (e.g. heat exchanger, pipes, pumps)
- Material fatigue
- Gas bubbles and gas cushion formation (cavitation)
- Negative effect on heat transfer (formation of coatings, deposits) and associated noises (e.g. boiling noises, flow noises)

LIMESCALE – THE ENERGY KILLER

Filling with untreated drinking water inevitably leads to the precipitation of all calcium as scale. The consequence: limescale deposits form on the heat transfer surfaces of the heating. The efficiency falls and the energy costs rise. A rule of thumb is that 1 millimetre of limescale deposit causes an efficiency loss of 10%. In extreme cases it can even cause damage to the heat exchangers.

WATER SOFTENING TO VDI 2035 – PART I

If the water is softened in accordance with the VDI 2035 guidelines before it is used to fill the heating system, no scale can form. This effectively and permanently prevents limescale deposits and the resulting negative effects on the entire heating system.

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CORROSION – AN UNDERESTIMATED PROBLEM

VDI 2035, Part II, deals with the problem of corrosion. Softening the heating water can prove to be insufficient. The pH value can significantly exceed the limit of 10. pH values higher than 11 can set in, which even damage rubber seals. The VDI 2035, Part I guidelines are fulfilled; however, VDI 2035, Part 2 suggests a pH value between 8.2 and maximum 10.

If aluminium materials are used, which is the case in many modern heating systems, a pH value of 8.5 must not be exceeded! Because otherwise there is a threat of corrosion – aluminium is attacked without the presence of oxygen. Therefore, apart from softening the heating fill and make-up water, the heating water should also be appropriately conditioned. This is the only way to comply with the VDI 2035 requirements and the recommendations and installation instructions of the heat pump manufacturer.

Part 2 of VDI 2035 also refers to the reduction in total salt content (conductivity). The risk of corrosion is far lower if deionised water is used than is the case if the system is operated with salty, i.e. softened water.

Even if drinking water has been softened beforehand, it contains dissolved, corrosive salts, which act as electrolytes due to the use of different materials in the heating system and thus accelerate corrosion processes. This can ultimately result in pitting.

ON THE SAFE SIDE WITH LOW-SALT OPERATION

The problems listed above do not occur at all with low-salt operation, as the heating water contains neither corrosive salts such as sulphates, chlorides and nitrates nor alkalising sodium hydrogen carbonate. The corrosive properties of deionised water are very low and in addition, scale cannot form in the boiler. This is the ideal approach for closed heating circuits, in particular, because low oxygen input into the heating circuit can also be tolerated.

In general, when the system is filled with deionised water, the pH value sets itself within the ideal range due to internal alkalinisation. If necessary, a pH value of 8.2 can be very easily alkalised by adding chemicals. In this way, optimum protection of the entire heating system is achieved.

MONITORING

Analytical recording and monitoring of the relevant water values and the added conditioning substances is of decisive importance. Therefore, they should be monitored regularly using appropriate water test equipment.

! IMPORTANT
Before flushing and filling the heating circuit, the drain pipe of the safety assembly must be connected.

① Flush the heating circuit thoroughly…

i NOTE.
Flush heat pump and heating circuit for about 5 minutes.

② Fill the heating circuit…

③ Bleed (vent) the heating circuit.

CLEANING AND FLUSHING UNIT COMPONENTS

CAUTION!
Unit components may be cleaned and flushed only by customer service personnel authorised by the manufacturer. Only use liquids recommended by the manufacturer.
After flushing the condenser with chemical cleaning agent, any residues must be neutralised and the system thoroughly flushed with water. Always note and follow the technical data of the respective heat exchanger manufacturer.

Insulating the hydraulic connections

NOTE.
Insulate the heating circuit and the heat source according to relevant local standards and guidelines.

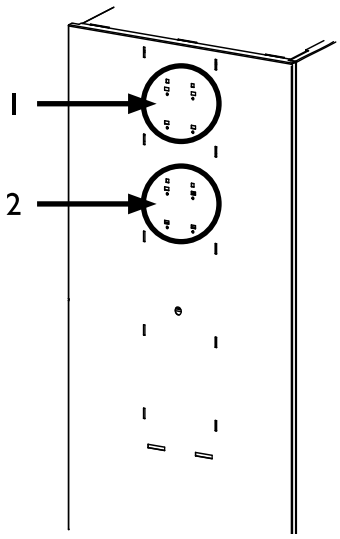
① Check all hydraulic connections for leaks. Perform pressure test…

② Insulate all connections, vibration isolators, connections and pipes of the heating circuit and the heat source. Insulate the heat source so that it is **vapour-diffusion tight**.

Installing the control panel

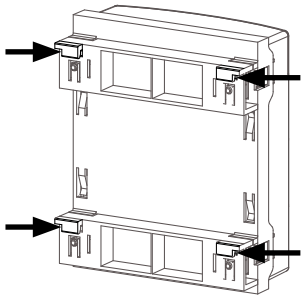
DANGER!
Risk of fatal electric shock!
Electrical connection work must be carried out by qualified electricians only.
Before opening the unit, safely disconnect the system from the power supply and prevent it from being switched back on!

There are 4 each recesses at different heights in the front panel of the unit for fastening the control panel:



1 four upper recesses
2 four lower recesses

There are 4 hooks at the rear of the control panel, which are used to hook the control panel on the front panel of the unit:



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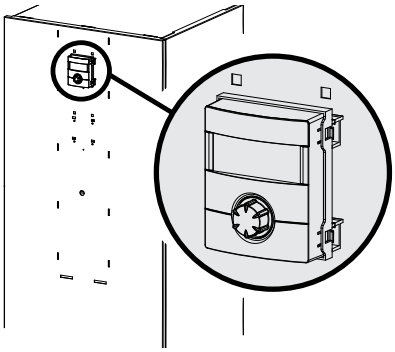
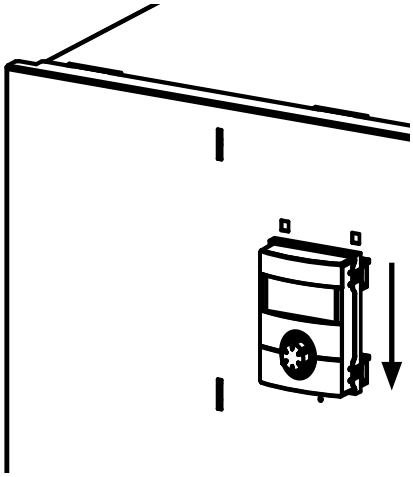
① Hook the control panel's hooks into the recesses of the front panel (either in the upper or lower recesses)...

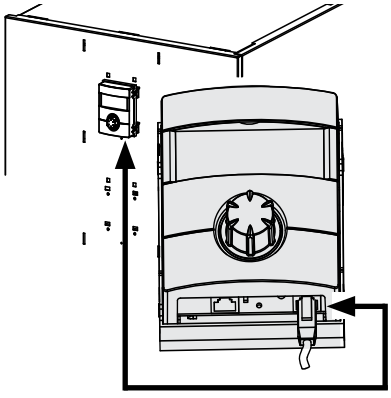


Example:
Control panel in upper recesses

② Push down the hooked in control panel, until it latches into place…



③ Push the control cable of the heating and heat pump controller into the **right-hand** socket on the underside of the control panel…



NOTE.
A connection to a computer or a network can be made via the left socket at the bottom of the control panel, thereby allowing the heating and heat pump controller to be controlled remotely from there. This requires a shielded network cable (category 6) to be laid through the unit during the electrical connection work.

Operating manual for the heating and heat pump controller, "Qualified technician" version, "Web server" section.

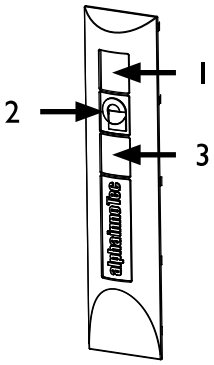
If this network cable is available, insert the network cable's RJ-45 connector into the left socket of the control panel.

NOTE.
The network cable can be exchanged at any time. In order to be able to connect it, the screen must first be removed.

Installation and removal of the screen

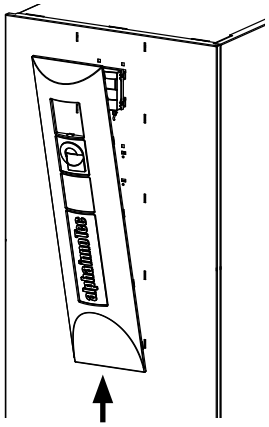
INSTALLING THE SCREEN

NOTE.
The masking plate is provided in the as delivered unit so that the control panel is inserted in the upper recesses of the front panel.
If the control panel has been inserted in the lower recesses of the front panel, you must first remove the masking plate's dummy cover and then reinsert it above the logo.

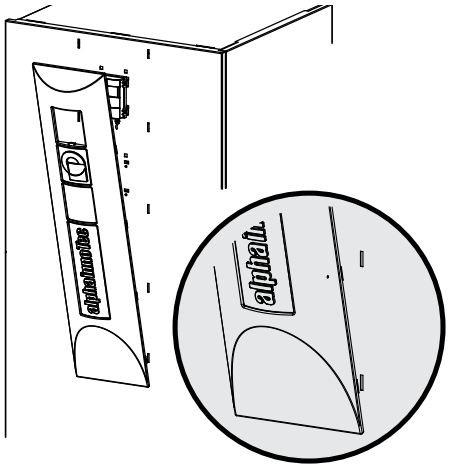


Screen at time of delivery:
1 Recess for control panel
2 Logo
3 Dummy cover

① First, insert the masking plate **below** in the slots provided in the front panel…

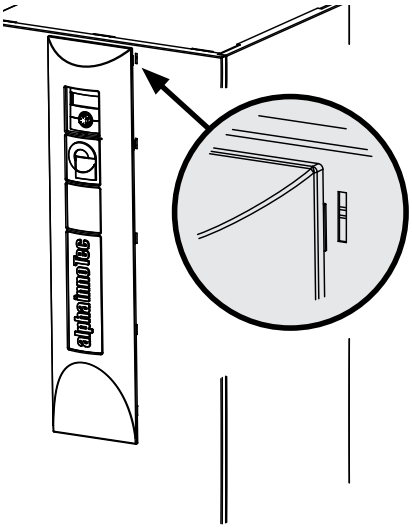


② Then, beginning on one side, latch the lugs on the masking plate **from the bottom up** into the slots provided in the front panel…



③ **Then, on the opposite side, latch the** lugs on the masking plate **from the bottom up** into the slots provided in the front panel…

④ Finally, press the upper latching lugs of the masking plate into the slots provided in the front panel.



DISMANTLING THE MASKING PLATE

In order to dismantle the masking plate, the latching lugs must be completely released **on one side first** by pushing **towards the middle of the masking plate**. Then release the lugs on the opposite side.

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Buffer tank

The hydraulic integration of the heat pump requires a buffer tank in the heating circuit. The necessary volume of the buffer tank is given by the following formula:

$$V_{\text{Buffer tank}} = \frac{\text{minimum throughput heating circuit flow rate / hour}}{10}$$

☞ For details of the minimum throughput heating circuit flow rate, refer to the "Technical data/ Scope of delivery" overview, "Heating circuit" section.

Circulation pumps

! IMPORTANT
Always note the unit model.
Do not use controlled circulation pumps.
Heating circuit and domestic hot water circulation pumps must be designed as constant speed pumps.

i NOTE:
The minimum heating water, heat source flow rate must be ensured!

i NOTE:
When dimensioning the circulation pump of the heat sources the viscosity of the brine liquid must be taken into account!

i NOTE:
A motor protection switch for the pump is integrated in the heat pump!
An external motor protection switch must be installed if a stronger groundwater pump is required.

☞ "Technical data/Scope of delivery" overview, Electrics.

☞ For details of the minimum heating circuit/heat source flow rate, refer to the "Technical data/ Scope of delivery overview, "Heating circuit" "heat source" section for the respective type.

Domestic water heating

Domestic water heating with the heat pump requires an additional heating water circuit (parallel) to the heating circuit. When connecting, make sure that the domestic hot water charge is not fed through the buffer tank of the heating circuit.

📖 "Hydraulic connection" documents.

Domestic hot water tank

If the heat pump is to be used for domestic water heating, you must integrate special domestic hot water tanks in the heat pump system. Choose a storage volume so that the required quantity of domestic hot water is available even during a power failure.

NOTE:
The heat exchanger surface of the domestic hot water tank must be dimensioned so that the heating output of the heat pump is transferred with minimum spread.

You can choose a domestic hot water tank from our product range. They are optimally matched to your heat pump.

NOTE:
Integrate the domestic hot water tank in the heat pump system as shown in the hydraulic diagram for your system.

NOTE:
A motor protection switch for the heat source circulation pump is integrated in the heat pump! An external motor protection switch must be installed if a stronger groundwater pump is required.

☞ "Technical/Scope of delivery" setting range

Commissioning

① Carry out a thorough installation check and work through the items on the general checklist…

☞ "General checklist".

The installation check will prevent damage to the heat pump system that can be caused by incorrectly carried out work.

Ensure that…

- the load power supply (compressor) has a **clockwise rotary field**.
- the heat pump is **installed and assembled** according to the requirements in this operating manual.
- the electrical installation work has been carried out properly.
- a **3-pole** fuse has been installed for the compressor. It must have a contact opening gap of at least 3 mm. A **3 pole** miniature circuit breaker must be installed.
- the heating circuit and the heat source are flushed, filled and bled thoroughly.
- all valves and shut-off devices of the heating circuit are open.
- all valves and shut-off devices of the heat source are open.
- all pipe systems and components of the system are leaktight.

② Carefully fill out and sign the completion report for heat pump systems…

☞ "Completion report for heat pump systems".

③ In Germany:
Send completion report for heat pump systems and general checklist to the manufacturer's factory customer service department.

Outside of Germany:
Send completion report for heat pump systems and general checklist to the manufacturer's local partner.

☞ "Customer service" overview.

④ The heat pump system will be commissioned by customer service personnel authorized by the manufacturer. There is a fee for commissioning!

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Dismantling

DANGER!
Risk of fatal electric shock!
Electrical work may only be carried out by qualified electricians.

Before opening the unit, safely disconnect the system from the power supply and prevent it from being switched back on!

WARNING!
Only qualified heating or refrigerating system personnel may dismantle the unit from the system.

IMPORTANT
The antifreeze mixture of the heat source must not be allowed to get into the sewers.
Collect antifreeze mixture and dispose of properly.

IMPORTANT
Recycle or ensure proper disposal of unit components, refrigerants and oil according to the relevant regulations, standards and guidelines.

REMOVING THE BUFFER BATTERY

IMPORTANT
Before scrapping the heating and heat pump controller, remove the buffer battery on the processor board. The battery can be pushed out using a screwdriver. Dispose of battery and electronic components in an environmentally friendly way.

Technical data / Scope of delivery

Heat pump type	Brine/water ı Air/water ı Water/water		• applicable ı — not applicable
Installation location	Indoors ı Outdoors		• applicable ı — not applicable
Conformity			CE
Performance data	Heating capacity/COP at		
	W10/W35 Standard point to EN255	2 compressors 1 compressor	kW ı ... kW ı ...
	W10/W50 Standard point to EN255	2 compressors 1 compressor	kW ı ... kW ı ...
	W7/W35 Standard point to EN255	2 compressors 1 compressor	kW ı ... kW ı ...
	W10/W45 Standard point to EN14511	2 compressors 1 compressor	kW ı ... kW ı ...
Limits of use	Heating circuit		°C
	Heat source		°C
	additional operating points		...
Sound	Sound pressure level averaged at distance of 1m around the machine (in free field)		dB(A)
	Sound power level to EN12102		dB
Heat source	Flow rate: minimum flow ı nominal flow ı maximum flow		l/h
	Heat pump pressure loss Δp ı Flow rate		bar ı l/h
	Recommended heat source pump		...
	Total compression of the recommended pump at nominal heat source flow rate		bar ı l/h
	Grit trap		taken into account in WP pressure loss: • yes — no
	Dirt trap pressure loss Δp ı Flow rate		bar ı l/h
Heating circuit	Flow rate: minimum flow ı nominal flow ı maximum flow		l/h
	Heat pump pressure loss Δp ı Flow rate		bar ı l/h
	Free compression heat pump Δp ı Flow rate		bar ı l/h
	Temperature spread for W10/W35		K
General unit data	Dimensions (see dimensioned drawing for the specified unit size)		unit size
	Total weight		kg (kg)
	Additional weight module 1		kg
	Additional weight module 2		kg
	Connections Heating circuit		...
	Heat source		...
	Refrigerant Refrigerant type ı Quantity		... ı kg
Electrics	Voltage code ı all-pole circuit breaker heat pump *)		... ı A
	Voltage code ı circuit breaker control voltage *)		... ı A
	Voltage code ı circuit breaker electric heating element *)		ı A
Heat pump	Effective power consumption in the standard point W10/W35 to EN255: Power consumption ı current consumption ı cosφ		kW ı A ı ...
	Maximum machine current within the use limits		A
	Starting current: direct ı with soft starter		A ı A
	Degree of protection		IP
	Output, electric heating element 3 ı 2 ı 1 phase		kW ı kW ı kW
Components	Circulation pump, heating circuit at nominal flow rate: Power consumption ı current consumption		kW ı A
	Circulation pump, heat source at nominal flow rate: Power consumption ı current consumption		kW ı A
	Setting range of heat source pump motor protection switch		A
Passive cooling function	Specification only for units with designator K: Cooling output at nominal flow rate (15°C heat source, 25°C heating water)		kW
Safety equipment	Safety assembly heating circuit ı Safety assembly heat source		Included in scope of delivery: • yes — no
Heating and heat pump controller			Included in scope of delivery: • yes — no
Electronic soft starter			integrated: • yes — no
Expansion vessels	Heat source: Scope of delivery ı Volume ı Initial pressure		• yes — no ı l ı bar
	Heating circuit: Scope of delivery ı Volume ı Initial pressure		• yes — no ı l ı bar
Overflow valve			integrated: • yes — no
Vibration decouplers	Heating circuit ı heat source		Included in scope of delivery: • yes — no

DE813240-a

*) comply with local regulations n.d. = not detectable

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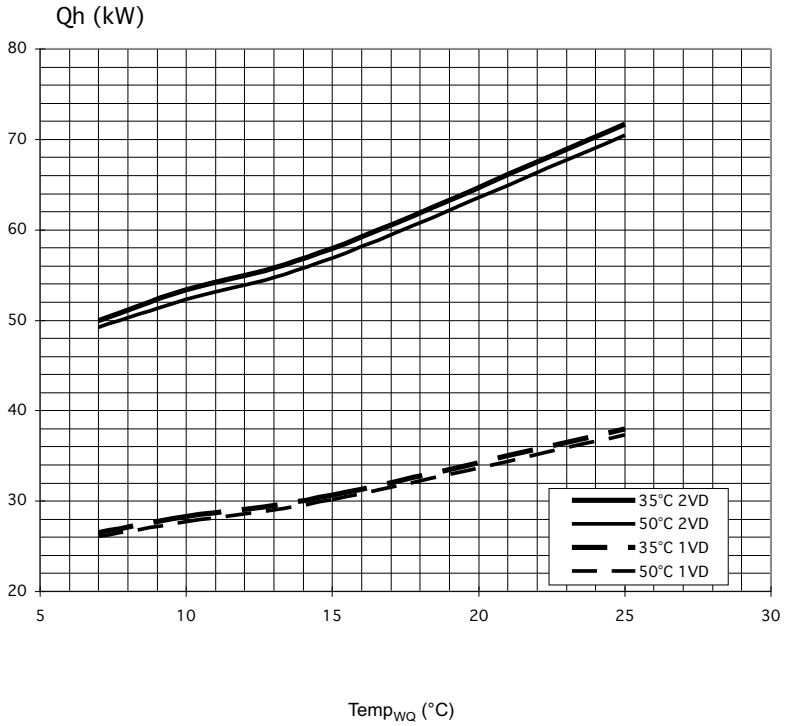
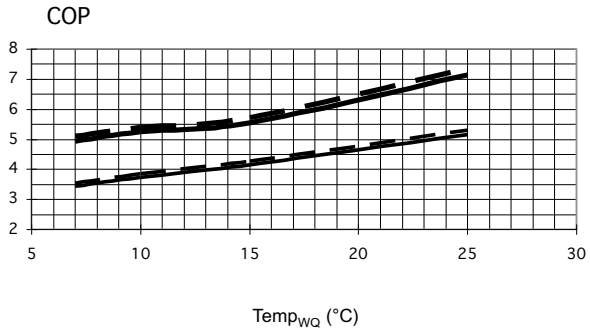
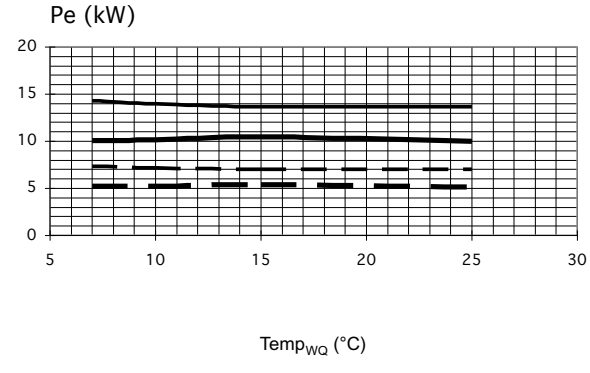
	WWP 550X	WWP 700X	WWP 900X	WWP 1100X
	— ı — ı •	— ı — ı •	— ı — ı •	— ı — ı •
	• ı —	• ı —	• ı —	• ı —
	•	•	•	•
	53,4 ı 5,3 28,3 ı 5,4	72,0 ı 5,4 38,2 ı 5,5	88,9 ı 5,2 47,1 ı 5,4	107,6 ı 5,3 57,0 ı 5,4
	52,3 ı 3,8 27,7 ı 3,9	70,6 ı 3,9 37,4 ı 4,0	87,2 ı 3,7 46,2 ı 3,8	105,5 ı 3,8 55,9 ı 3,9
	50,0 ı 5,0 26,5 ı 5,1	67,7 ı 5,1 35,9 ı 5,2	83,6 ı 4,9 44,3 ı 5,1	101,2 ı 5,0 53,6 ı 5,1
	49,7 ı 4,0 26,3 ı 4,0	66,7 ı 4,0 35,5 ı 4,1	82,7 ı 4,0 43,8 ı 4,0	100,0 ı 4,0 53,0 ı 4,0
	20 - 60	20 - 60	20 - 60	20 - 60
	7 - 25	7 - 25	7 - 25	7 - 25
	—	—	—	—
	55	55	57	57
	—	—	—	—
	10600 ı 10600 ı 18600	14400 ı 14400 ı 25000	17600 ı 17600 ı 30600	21400 ı 21400 ı 37400
	0,23 ı 10600	0,21 ı 14400	0,26 ı 17600	0,20 ı 21400
	Grundfos SP8A-5	Grundfos SP17-3	Grundfos SP17-3	Grundfos SP30-3
	1,40 ı 10600	2,7 ı 14400	2,31 ı 17600	2,74 ı 21400
	•	•	•	•
	— ı —	— ı —	— ı —	— ı —
	4600 ı 5000 ı 11400	6100 ı 6600 ı 12800	7600 ı 8500 ı 15500	9200 ı 10100 ı 18500
	0,06 ı 5000	0,06 ı 6600	0,06 ı 8500	0,08 ı 10100
	— ı —	— ı —	— ı —	— ı —
	9,1	9,3	8,9	9,1
	1	1	1	1
	560	570	580	610
	—	—	—	—
	—	—	—	—
	DN50 DIN 2566	DN50 DIN 2566	DN50 DIN 2566	DN50 DIN 2566
	DN50 DIN 2566	DN50 DIN 2566	DN50 DIN 2566	DN50 DIN 2566
	R407c ı 8,0	R407c ı 10,7	R407c ı 13,0	R407c ı 15,80
	3~/PE/400V/50Hz ı C40	3~/PE/400V/50Hz ı C50	3~/PE/400V/50Hz ı C63	3~/PE/400V/50Hz ı C80
	1~/N/PE/230V/50Hz ı B10	1~/N/PE/230V/50Hz ı B10	1~/N/PE/230V/50Hz ı B10	1~/N/PE/230V/50Hz ı B10
	— ı —	— ı —	— ı —	— ı —
	10,1 ı 2x 10,3 ı 0,71	13,3 ı 2x 12,2 ı 0,79	17,1 ı 2x 16,0 ı 0,77	20,3 ı 2x 18,2 ı 0,81
	2x 14,9	2x 19,8	2x 24,3	2x 25,13
	98 ı 41	120 ı 85	150 ı 90	198 ı 125
	20	20	20	20
	— ı — ı —	— ı — ı —	— ı — ı —	— ı — ı —
	— ı —	— ı —	— ı —	— ı —
	0,75 ı 2,3	2,2 ı 5,5	2,2 ı 5,5	3,0 ı 7,85
	1,8 - 2,5	5,5 - 8,0	5,5 - 8,0	5,5 - 8,0
	—	—	—	—
	— ı —	— ı —	— ı —	— ı —
	•	•	•	•
	•	•	•	•
	— ı —	— ı —	— ı —	— ı —
	— ı —	— ı —	— ı —	— ı —
	—	—	—	—
	—	—	—	—
	813226-a	813220-f	813221-f	813222-f

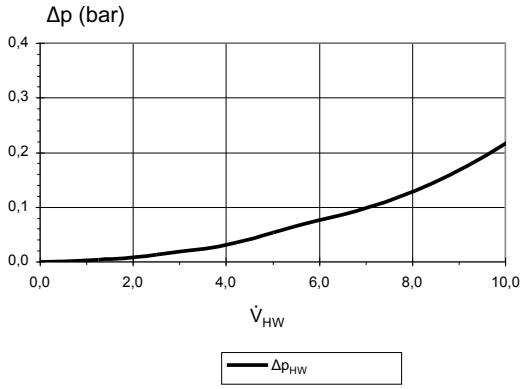
WWP 550X

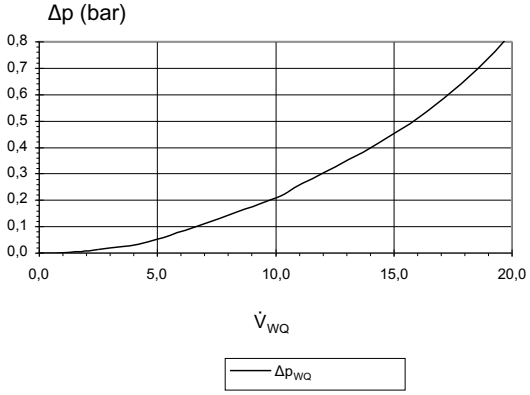
Performance curves











823213

Legend:	UK823200
$\dot{V}_{HW}$	Heating water flow rate
$\dot{V}_{WQ}$	Heat source flow rate
Temp$_{WQ}$	Heat source temperature
Qh	Heating capacity
Pe	Power consumption
COP	Coefficient of performance / efficiency rating
Δp$_{HW}$	Free compression, heating circuit
Δp$_{WQ}$	Heat source pressure loss
VD	Compressor

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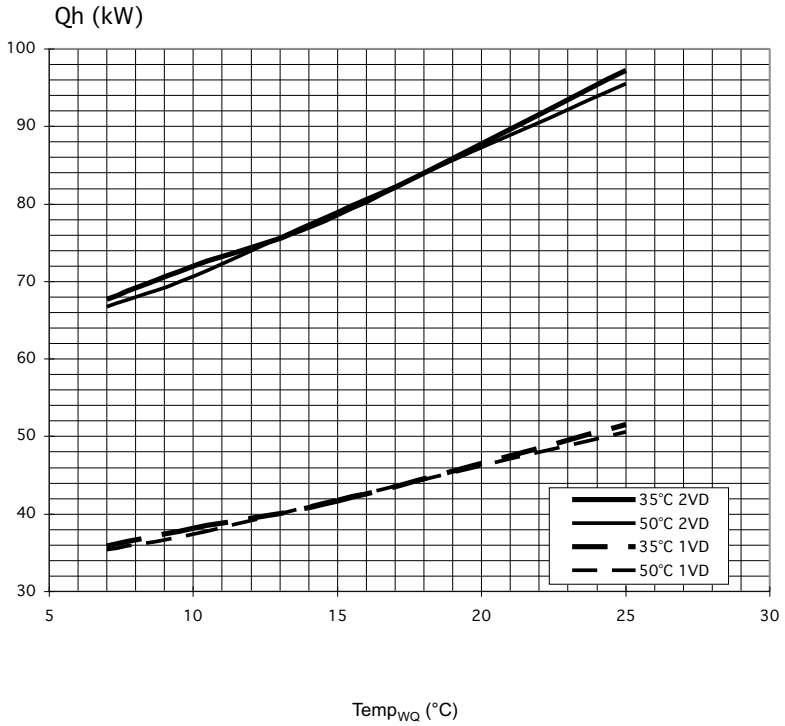
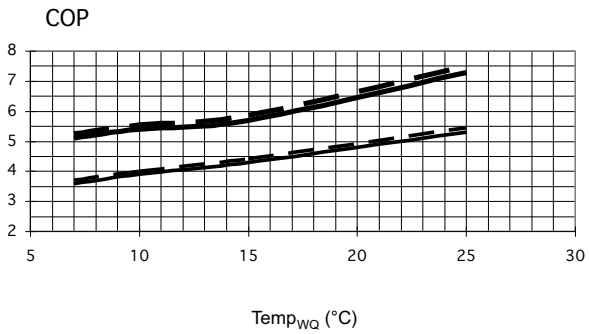
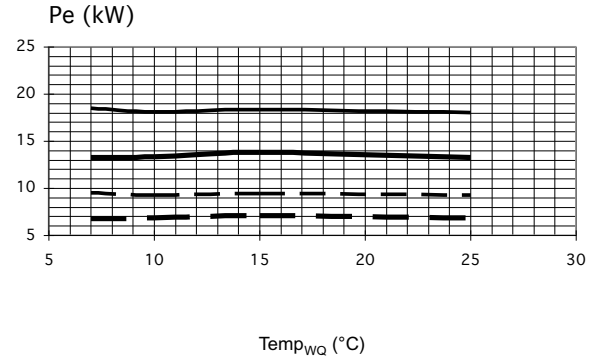
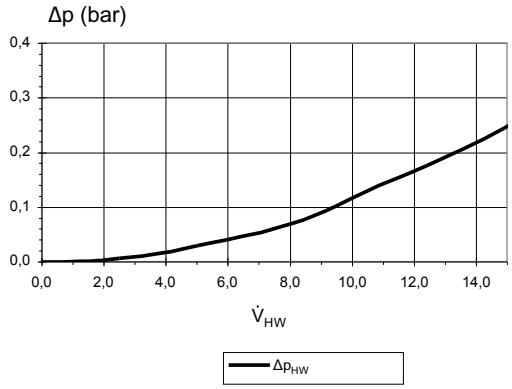
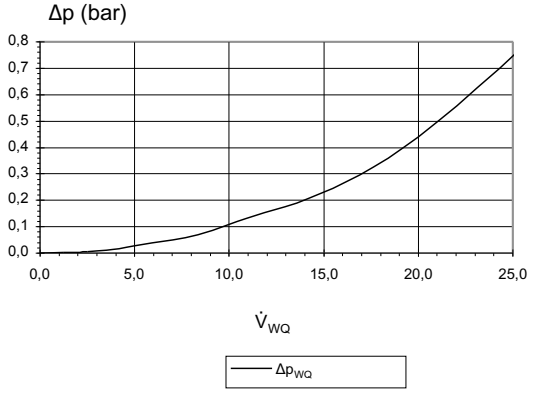
Performance curves











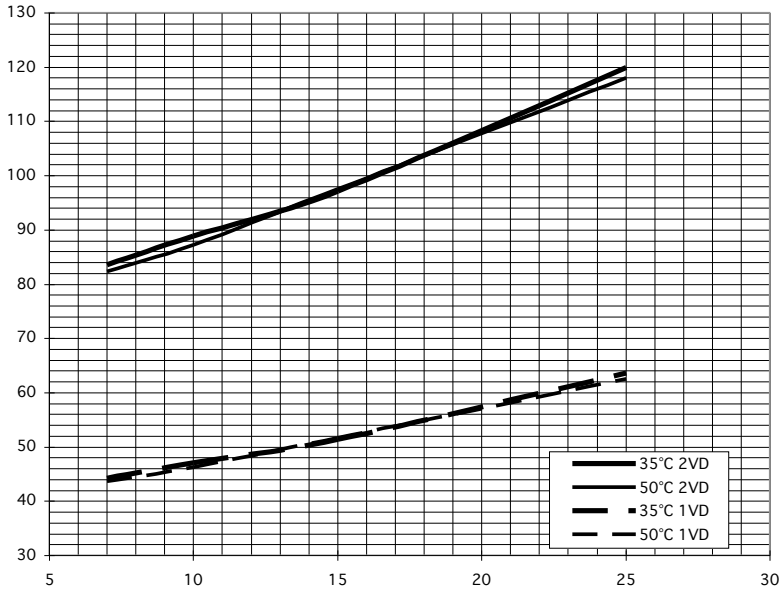
823210

Legend:	UK823200
$\dot{V}_{HW}$	Heating water flow rate
$\dot{V}_{WQ}$	Heat source flow rate
Temp$_{WQ}$	Heat source temperature
Qh	Heating capacity
Pe	Power consumption
COP	Coefficient of performance / efficiency rating
Δp$_{HW}$	Free compression, heating circuit
Δp$_{WQ}$	Heat source pressure loss
VD	Compressor

WWP 900X

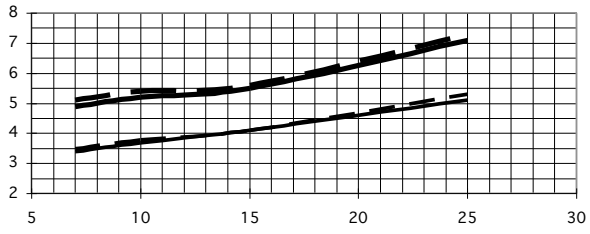
Performance curves

Qh (kW)



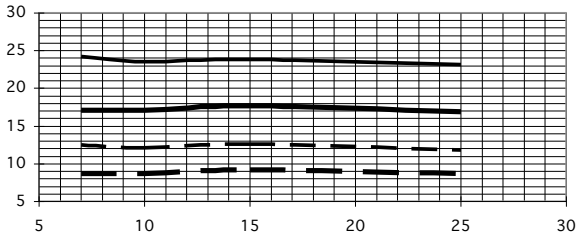
$Temp_{WQ}$ (°C)

COP



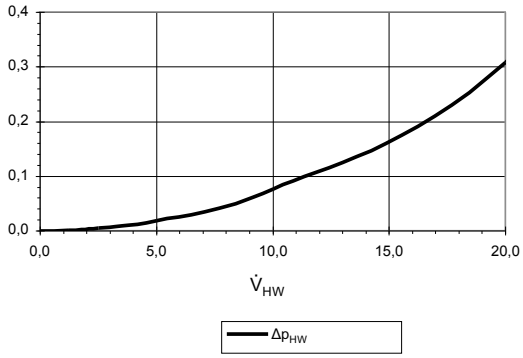
$Temp_{WQ}$ (°C)

Pe (kW)

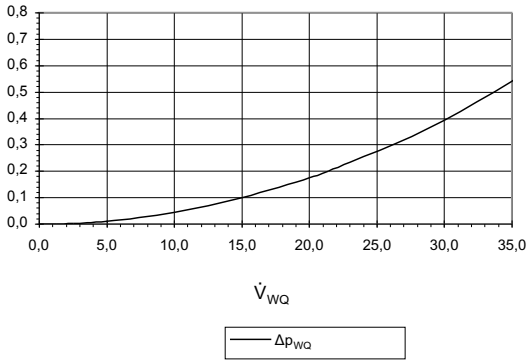


$Temp_{WQ}$ (°C)

Δp (bar)



Δp (bar)



823211

Legend:	UK823200
$\dot{V}_{HW}$	Heating water flow rate
$\dot{V}_{WQ}$	Heat source flow rate
$Temp_{WQ}$	Heat source temperature
Qh	Heating capacity
Pe	Power consumption
COP	Coefficient of performance / efficiency rating
Δp_{HW}	Free compression, heating circuit
Δp_{WQ}	Heat source pressure loss
VD	Compressor

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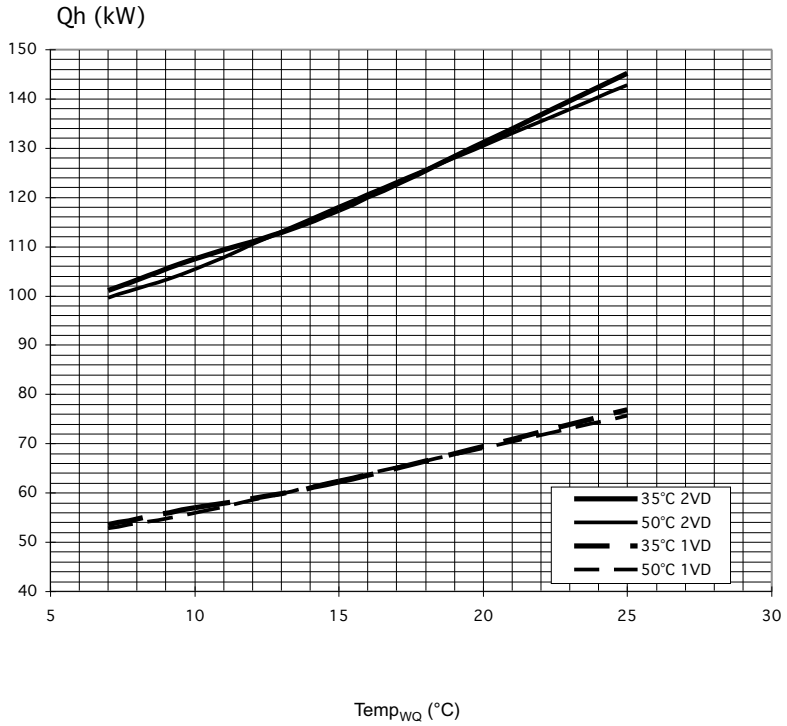
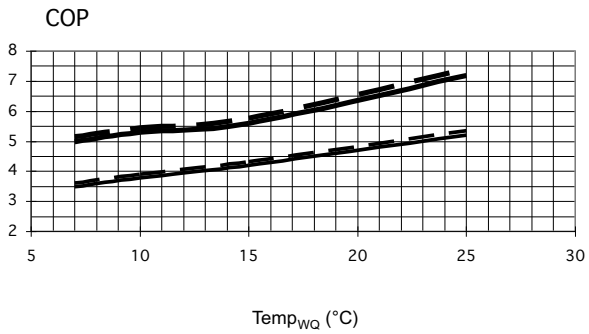
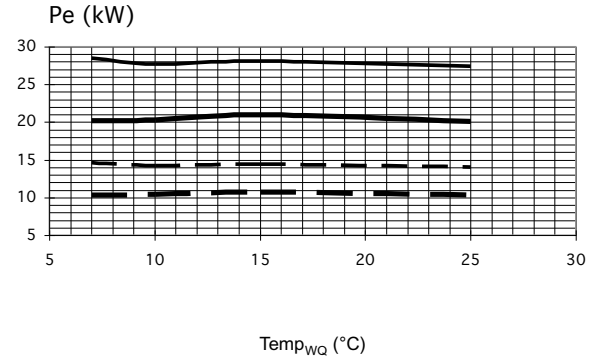
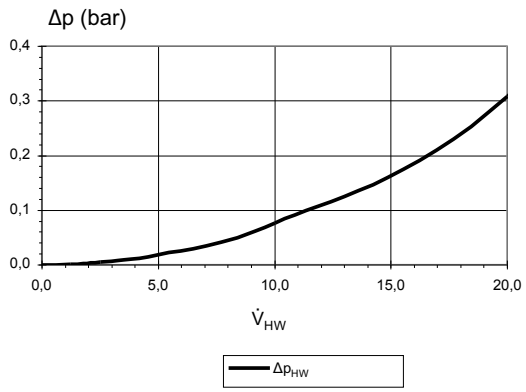
Performance curves

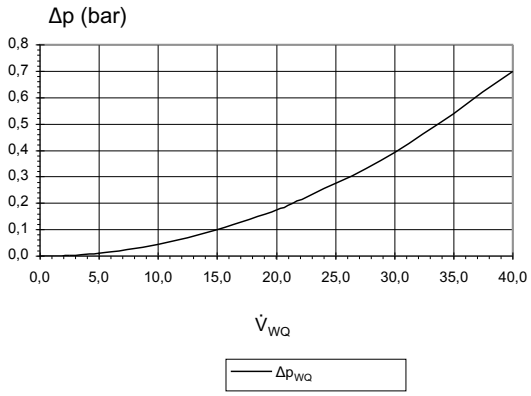
WWP 1100X





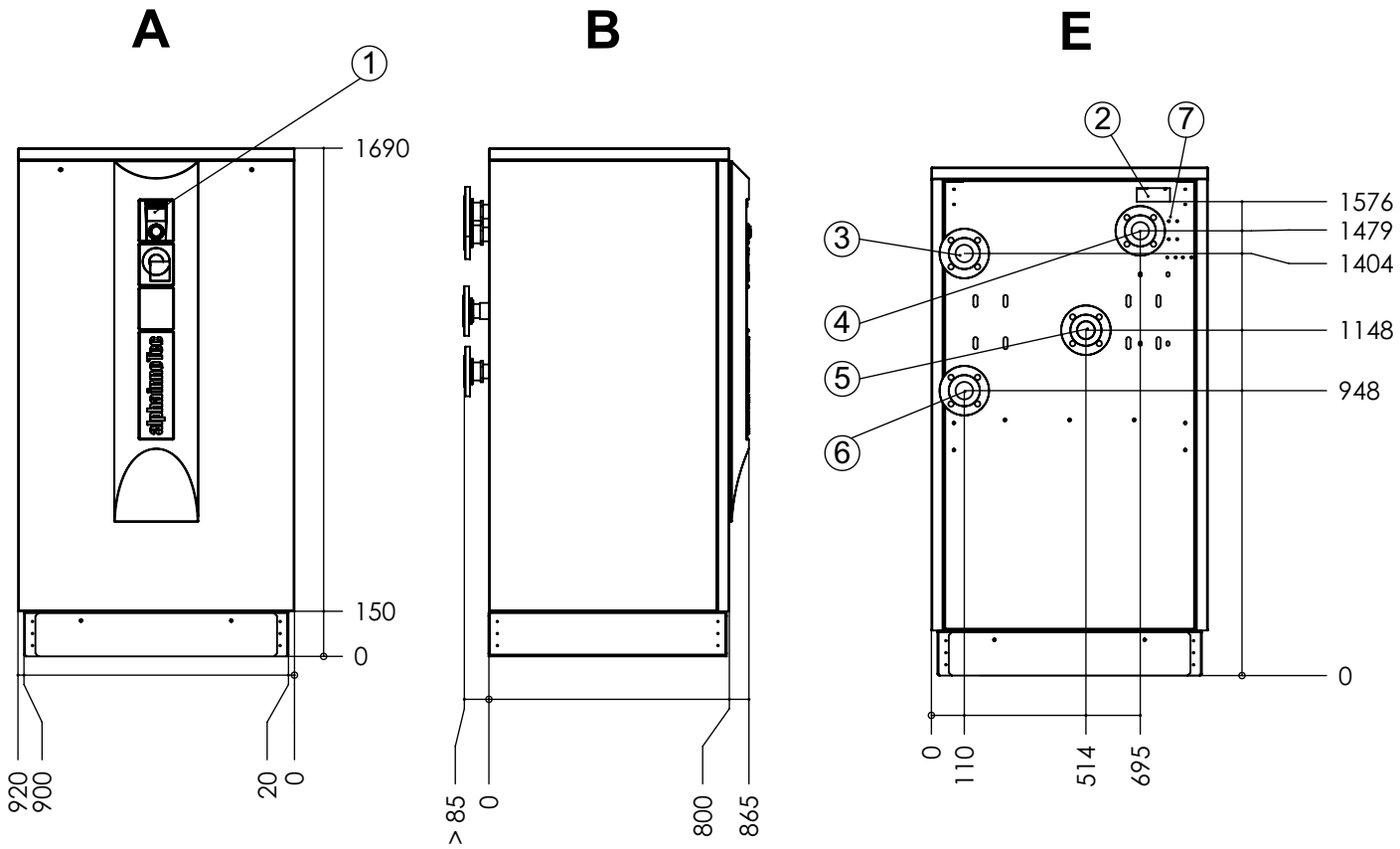






823212

Legend:	UK823200
$\dot{V}_{HW}$	Heating water flow rate
$\dot{V}_{WQ}$	Heat source flow rate
Temp$_{WQ}$	Heat source temperature
Qh	Heating capacity
Pe	Power consumption
COP	Coefficient of performance / efficiency rating
Δp$_{HW}$	Free compression, heating circuit
Δp$_{WQ}$	Heat source pressure loss
VD	Compressor



Legend: UK819224~d
All dimensions in mm.

A	Front view
B	Side view from left
E	Rear view

Item	Designation	Connection
1	Control panel	
2	Penetrations for electric/sensor cables	
3	Heating water outlet (flow)	Flange 2" IG DIN 2566
4	Heat source inlet	Flange 2" IG DIN 2566
5	Heat source outlet	Flange 2" IG DIN 2566
6	Heating water inlet (return)	Flange 2" IG DIN 2566
7	Strain relief devices	

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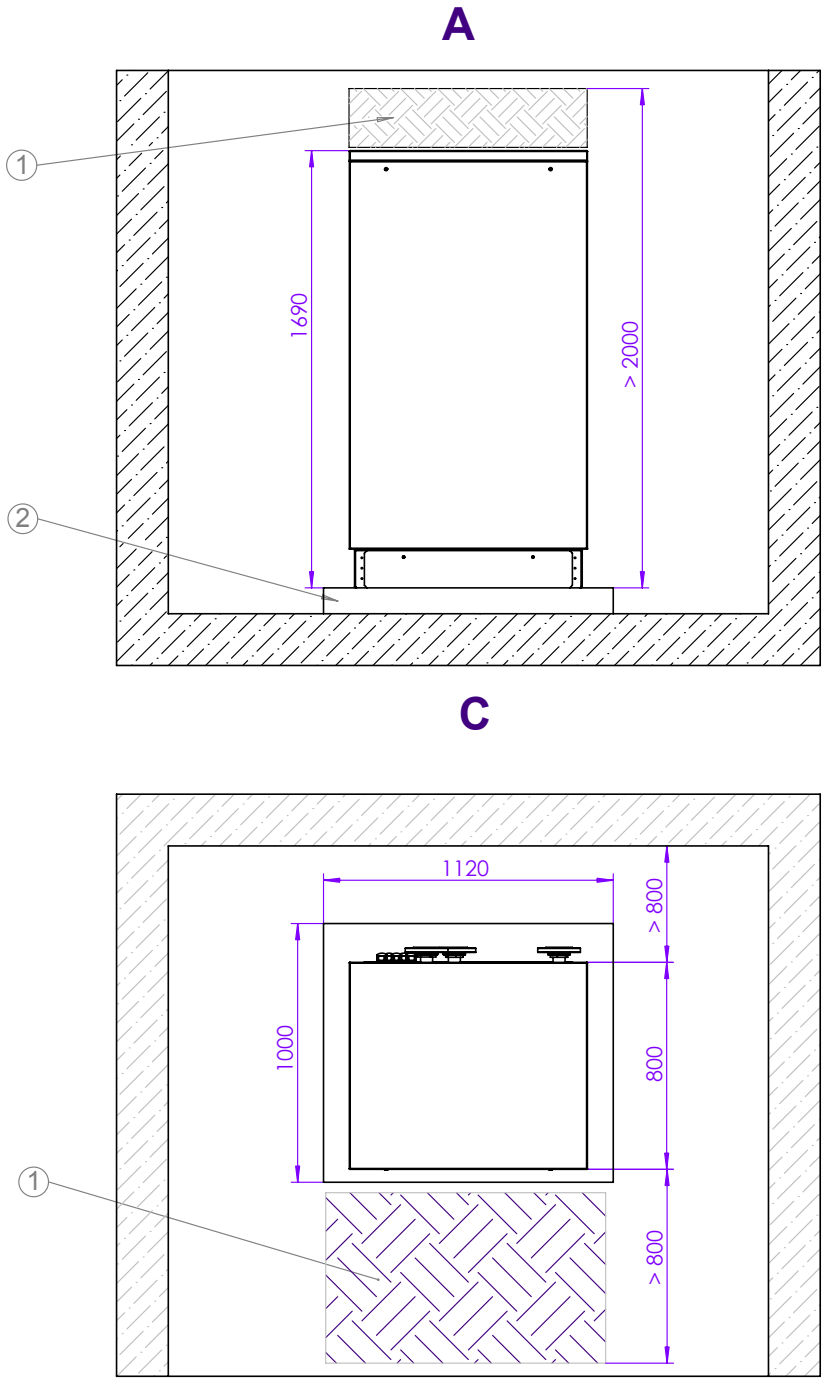
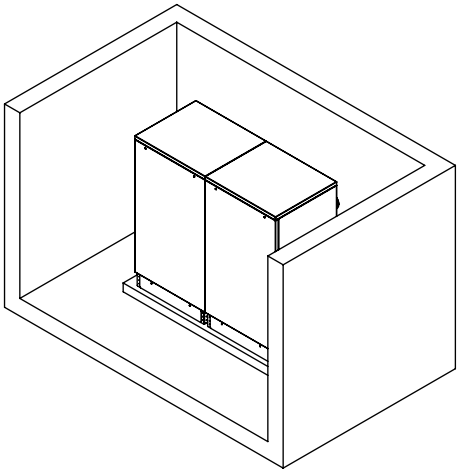


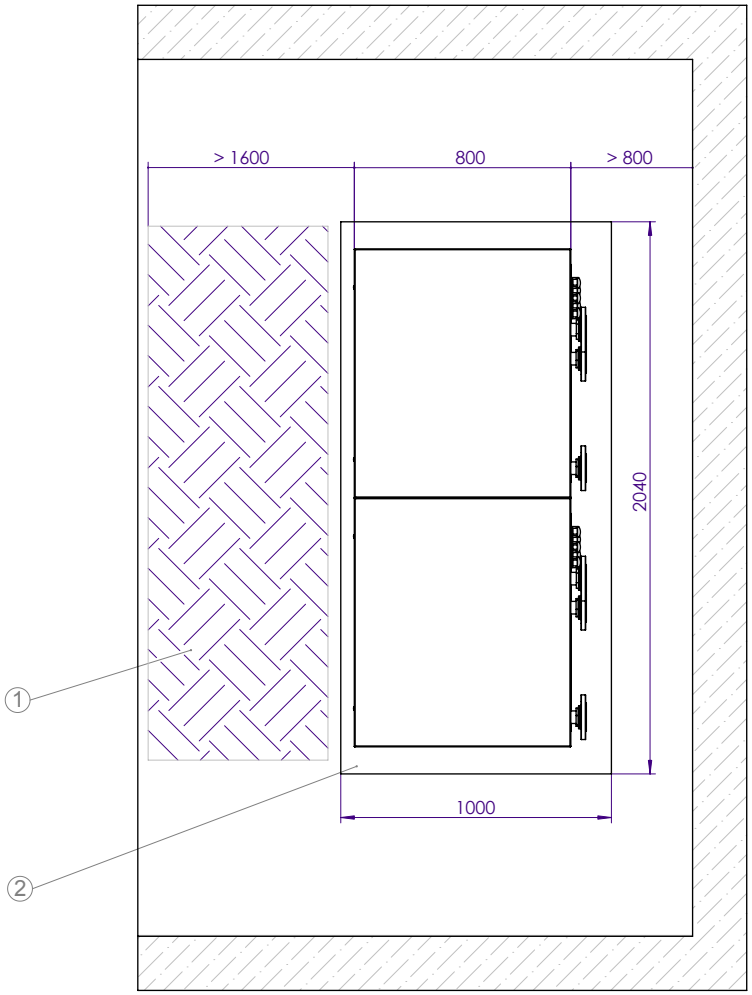
Legend: UK819135~c
All dimensions in mm.

A	Front view
C	Top view

Item	**Designation**
1	Shaded area = free space for service purposes
2	Concrete foundation with sound insulation inlay



C



Legend: UK819136
All dimensions in mm.

C Top view

Item	Designation
1	Shaded area = free space for service purposes
2	Concrete foundation with sound insulation inlay

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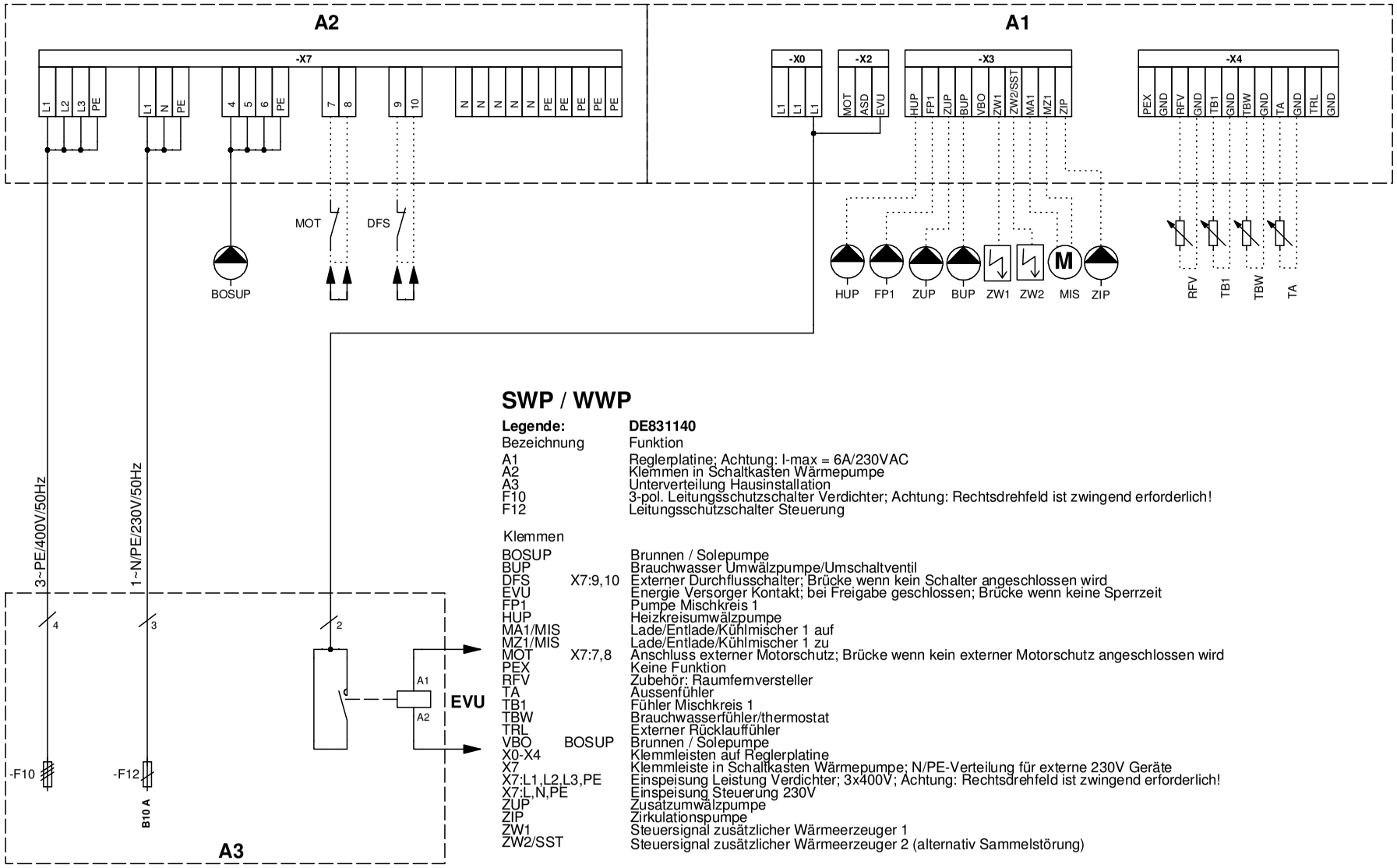
Terminal diagram



Absicherung bitte den
technischen Daten entnehmen

SWP / WWP

Legende:		**DE831140**
Bezeichnung		Funktion
A1		Reglerplatine; Achtung: I-max = 6A/230VAC
A2		Klemmen in Schaltkasten Wärmepumpe
A3		Unterverteilung Hausinstallation
F10		3-pol. Leitungsschutzschalter Verdichter; Achtung: Rechtsdrehfeld ist zwingend erforderlich!
F12		Leitungsschutzschalter Steuerung
Klemmen		
BOSUP		Brunnen / Solepumpe
BUP		Brauchwasser Umwälzpumpe/Umschaltventil
DFS	X7:9,10	Externer Durchflusschalter; Brücke wenn kein Schalter angeschlossen wird
EVU		Energie Versorger Kontakt; bei Freigabe geschlossen; Brücke wenn keine Sperrzeit
FP1		Pumpe Mischkreis 1
HUP		Heizkreisumwälzpumpe
MA1/MIS		Lade/Entlade/Kühlmischer 1 auf
MZ1/MIS		Lade/Entlade/Kühlmischer 1 zu
MOT	X7:7,8	Anschluss externer Motorschutz; Brücke wenn kein externer Motorschutz angeschlossen wird
PEX		Keine Funktion
RFV		Zubehör: Raumfernversteller
TA		Aussenfühler
TB1		Fühler Mischkreis 1
TBW		Brauchwasserfühler/thermostat
TRL		Externer Rücklauffühler
VBO	BOSUP	Brunnen / Solepumpe
X0-X4		Klemmleisten auf Reglerplatine
X7		Klemmleiste in Schaltkasten Wärmepumpe; N/PE-Verteilung für externe 230V Geräte
X7:L1,L2,L3,PE		Einspeisung Leistung Verdichter; 3x400V; Achtung: Rechtsdrehfeld ist zwingend erforderlich!
X7:L,N,PE		Einspeisung Steuerung 230V
ZUP		Zusatzumwälzpumpe
ZIP		Zirkulationspumpe
ZW1		Steuersignal zusätzlicher Wärmeerzeuger 1
ZW2/SST		Steuersignal zusätzlicher Wärmeerzeuger 2 (alternativ Sammelstörung)

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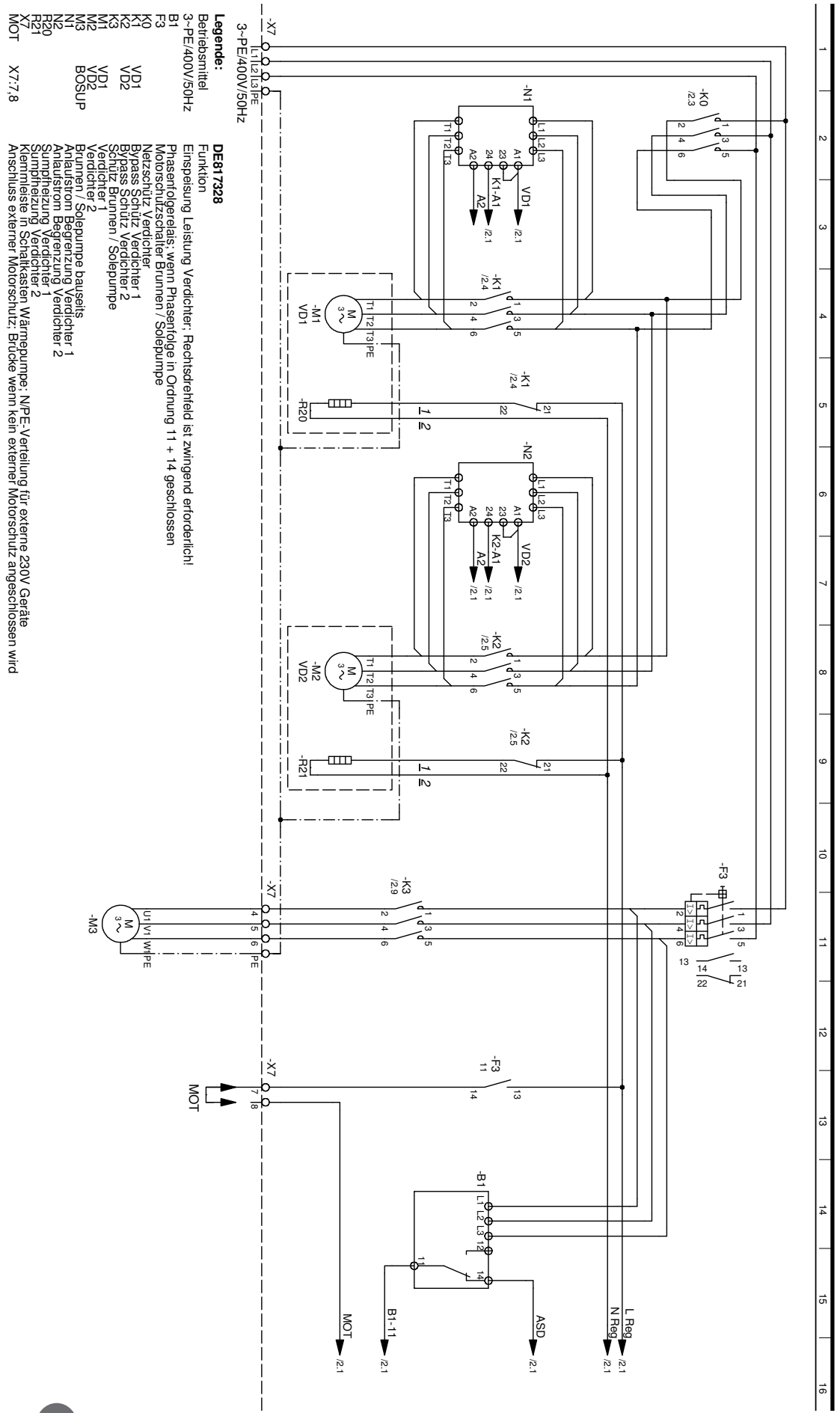
Circuit diagram 1/3



Legende:

Betriebsmittel		
3~PE/400V/50Hz		
B1		
F3		
K0		
K1	VD1	
K2	VD2	
K3		
M1	VD1	
M2	VD2	
M3	BOSUP	
N1		
N2		
R20		
R21		
X7		
MOT	X7:7,8	

DE817328

Funktion

Einspeisung Leistung Verdichter: Rechtsdrehfeld ist zwingend erforderlich!

Phasenfolgerelais: wenn Phasenfolge in Ordnung 11 + 14 geschlossen

Motorschutzschalter Brunnen / Solepumpe

Netzschütz Verdichter

Bypass Schütz Verdichter 1

Bypass Schütz Verdichter 2

Schütz Brunnen / Solepumpe

Verdichter 1

Verdichter 2

Brunnen / Solepumpe bauseits

Anlaufstrom Begrenzung Verdichter 1

Anlaufstrom Begrenzung Verdichter 2

Sumpfheizung Verdichter 1

Sumpfheizung Verdichter 2

Klemmleiste in Schaltkasten Wärmepumpe: N/PE-Verteilung für externe 230V Geräte

Anschluss externer Motorschutz; Brücke wenn kein externer Motorschutz angeschlossen wird

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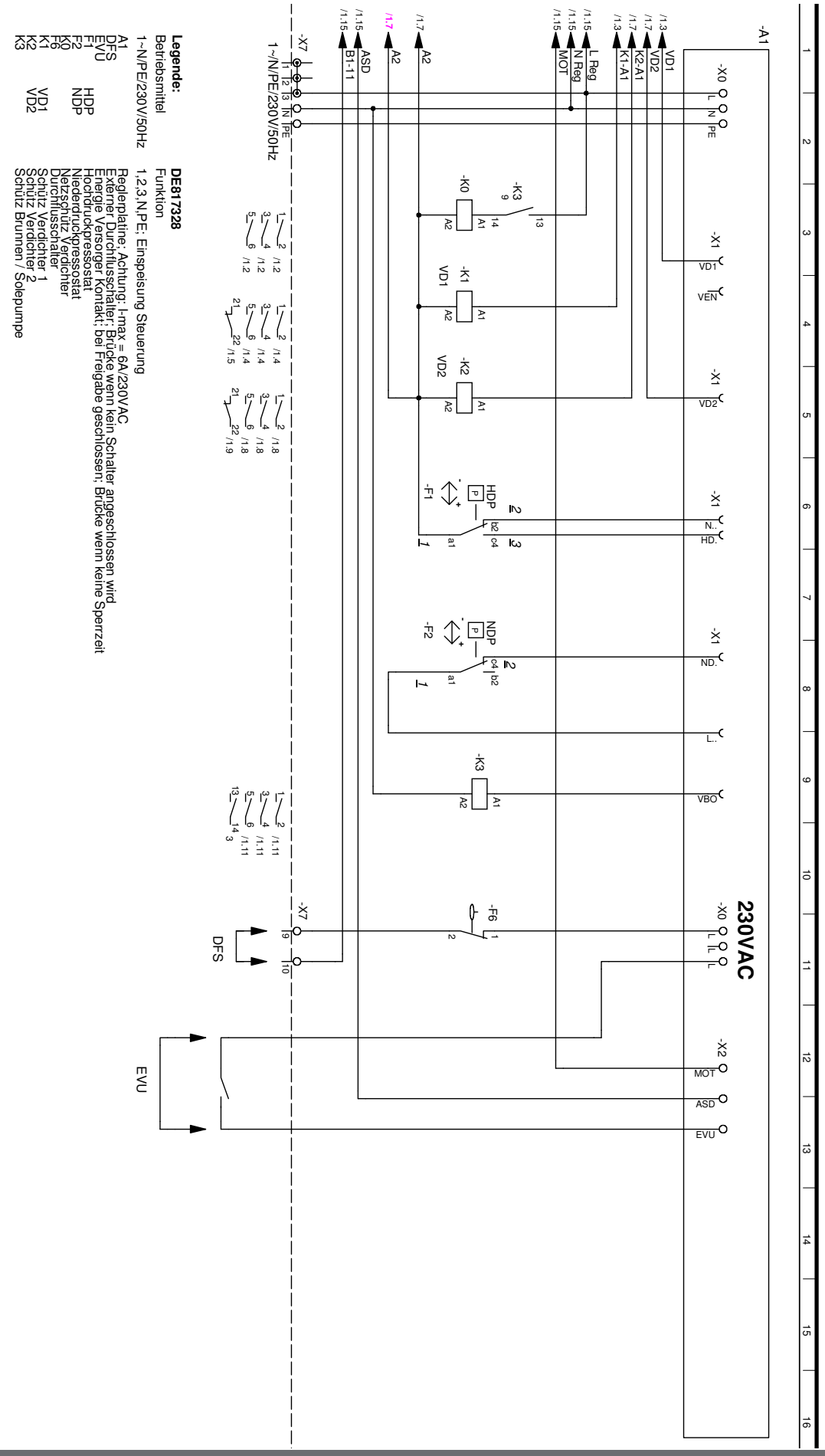
Circuit diagram 2/3



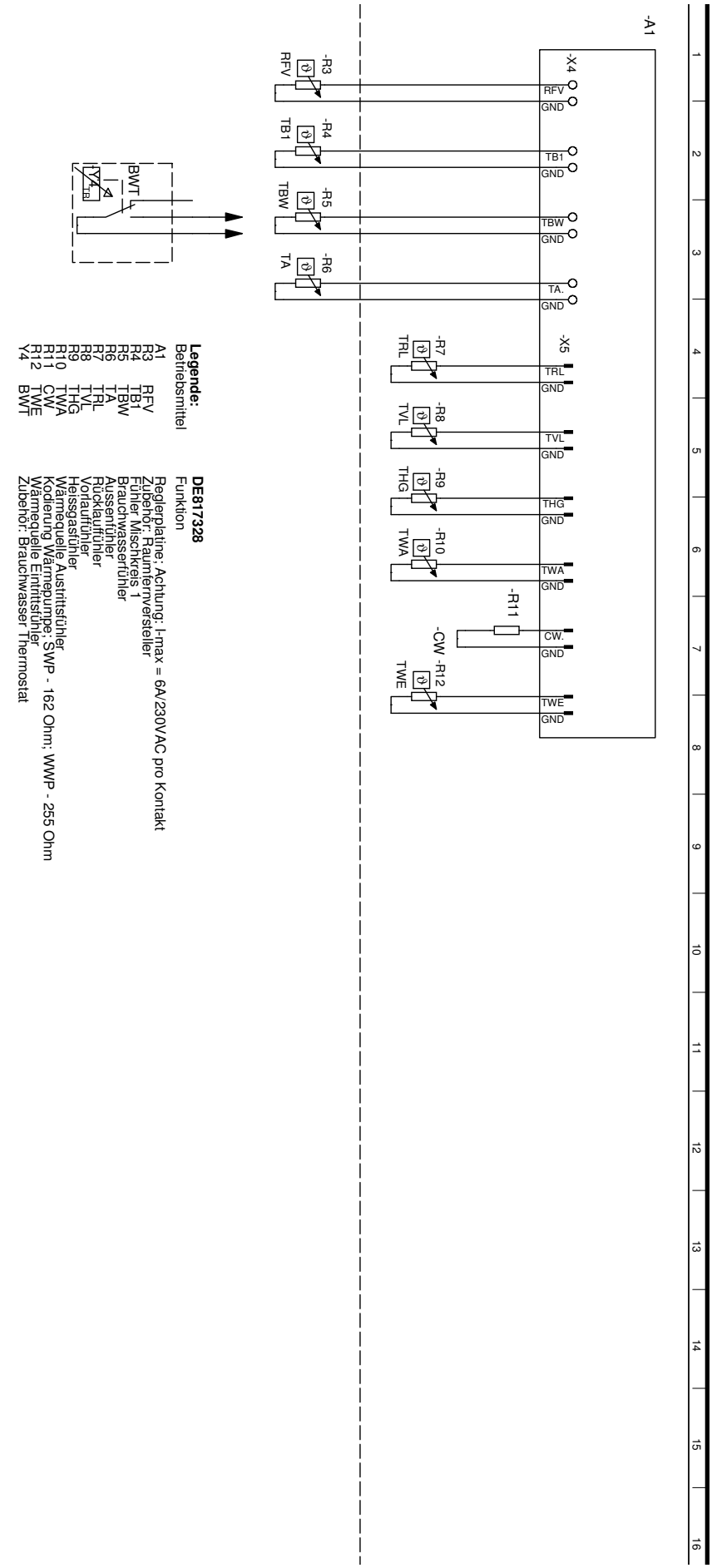
Legende:

Betriebsmittel	
1~N/PE/230V/50Hz	1,2,3,N,PE: Einspeisung Steuerung
A1	Reglerplatine; Achtung: I-max = 6A/230VAC
DFS	Externer Durchflussschalter; Brücke wenn kein Schalter angeschlossen wird
EVU	Energie Versorger Kontakt; bei Freigabe geschlossen; Brücke wenn keine Sperrzeit
F1	Hochdruckpressostat
F2	Niederdruckpressostat
F6	Netzschütz Verdichter
K0	Durchflusschalter
K1	Schütz Verdichter 1
K2	Schütz Verdichter 2
K3	Schütz Brunnen / Solepumpe

DE817328

Betriebsmittel	
Funktion	
1~N/PE/230V/50Hz	1,2,3,N,PE: Einspeisung Steuerung
A1	Reglerplatine; Achtung: I-max = 6A/230VAC
DFS	Externer Durchflussschalter; Brücke wenn kein Schalter angeschlossen wird
EVU	Energie Versorger Kontakt; bei Freigabe geschlossen; Brücke wenn keine Sperrzeit
F1	HDP Hochdruckpressostat
F2	NDP Niederdruckpressostat
F6	Netzschütz Verdichter
K0	Durchflusschalter
K1	VD1 Schütz Verdichter 1
K2	VD2 Schütz Verdichter 2
K3	Schütz Brunnen / Solepumpe

Circuit diagram 3/3



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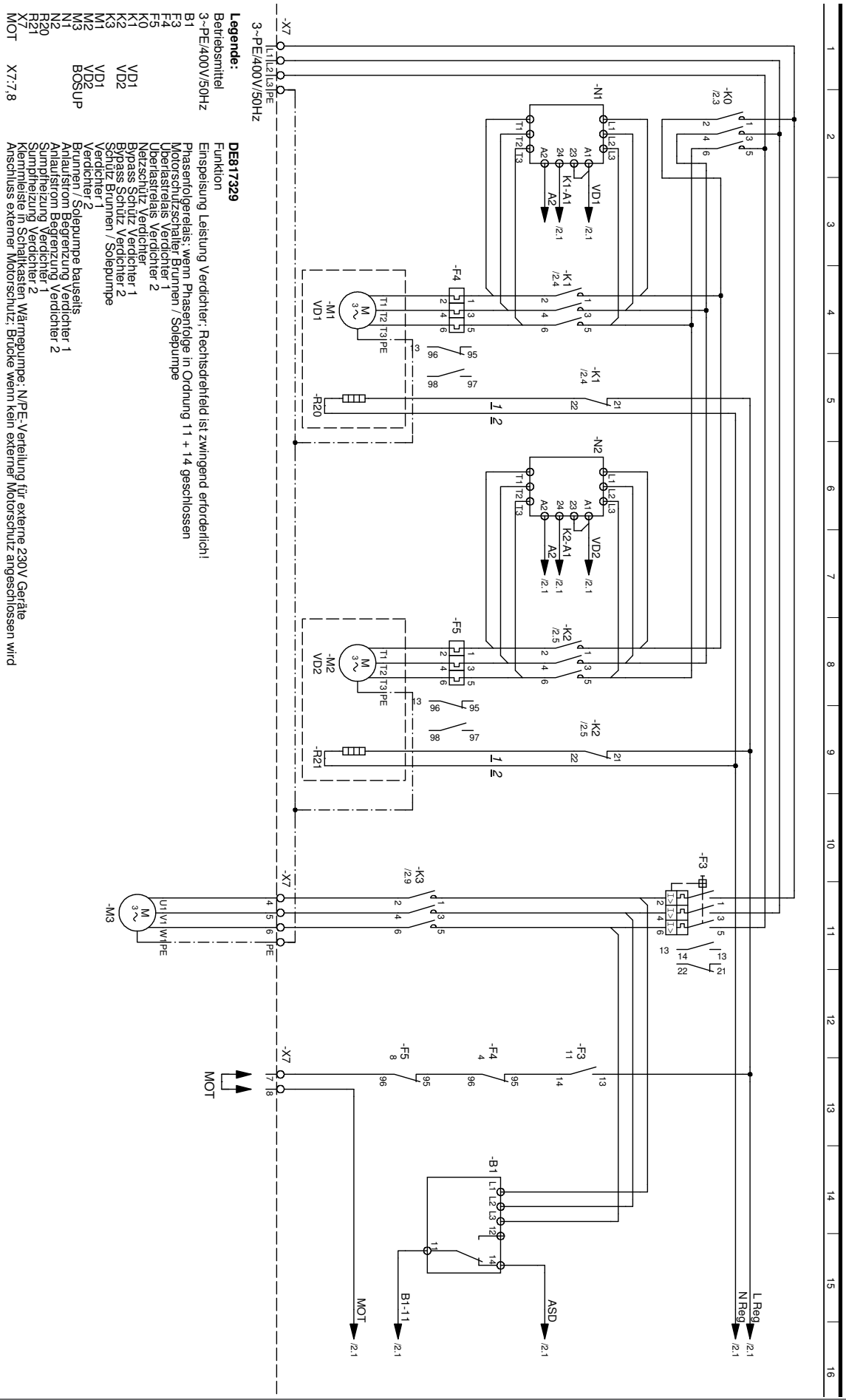
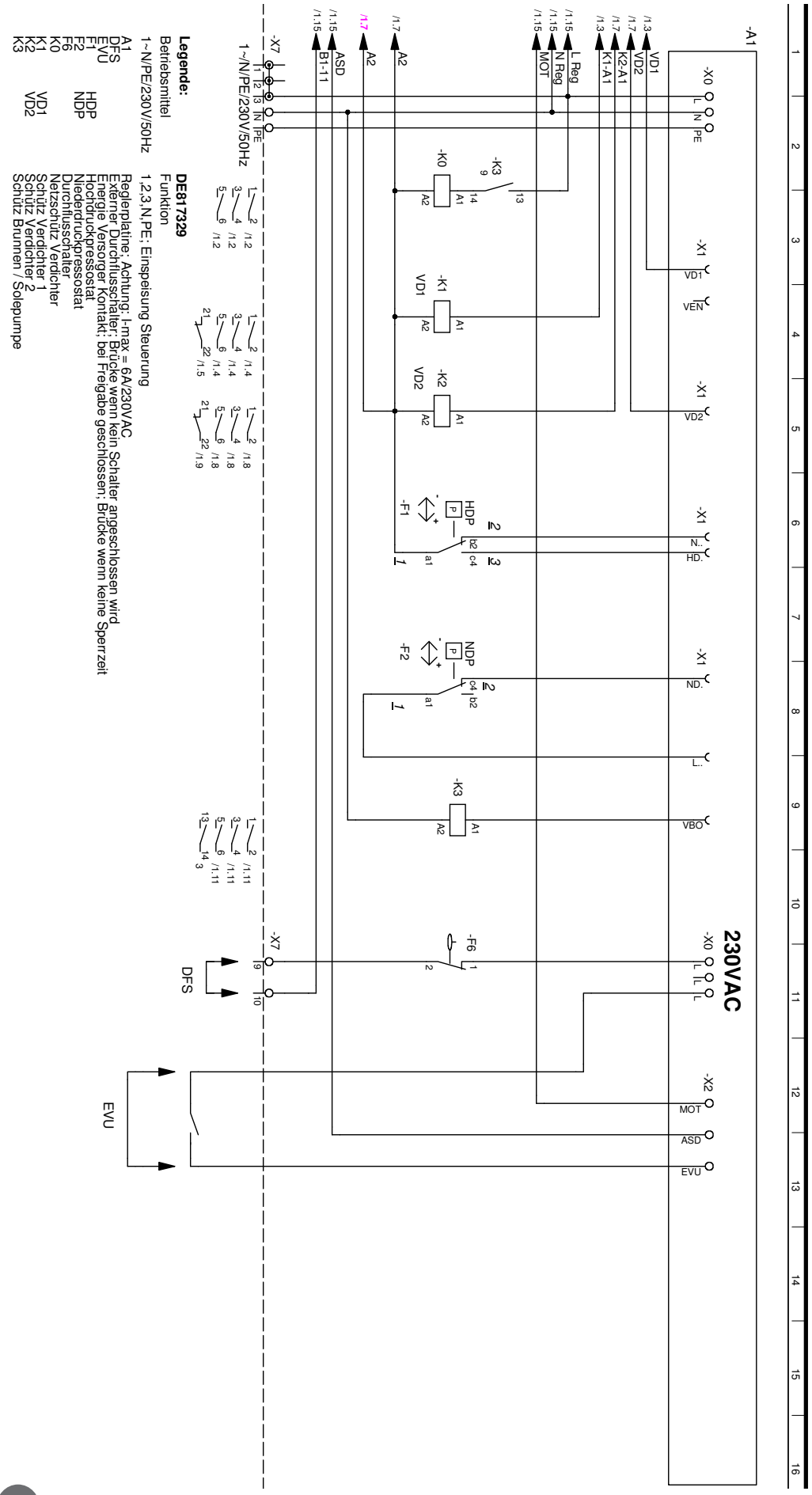


Legende:

Betriebsmittel		**DE817329**
3~PE/400V/50Hz		Funktion
B1		Einspeisung Leistung Verdichter; Rechtsdrehfeld ist zwingend erforderlich!
F3		Phasenfolgerelais; wenn Phasenfolge in Ordnung 11 + 14 geschlossen
F4		Motorschutzschalter Brunnen / Solepumpe
F5		Überlastrelais Verdichter 1
K0		Überlastrelais Verdichter 2
K1	VD1	Netzschütz Verdichter
K2	VD2	Bypass Schütz Verdichter 1
K3		Bypass Schütz Verdichter 2
M1	VD1	Schütz Brunnen / Solepumpe
M2	VD2	Verdichter 1
M3	BOSUP	Verdichter 2
N1		Brunnen / Solepumpe bauseits
N2		Anlaufstrom Begrenzung Verdichter 1
R20		Anlaufstrom Begrenzung Verdichter 2
R21		Sumpfheizung Verdichter 1
X7		Sumpfheizung Verdichter 2
MOT	X7:7,8	Klemmleiste in Schaltkasten Wärmepumpe; N/PE-Verteilung für externe 230V Geräte
		Anschluss externer Motorschutz; Brücke wenn kein externer Motorschutz angeschlossen wird

Circuit diagram 2/3



Legende:

Betriebsmittel

1~N/PE/230V/50Hz 1.2.3.N.PE: Einspeisung Steuerung

A1 Reglerplatine; Achtung: I-max = 6A/230VAC

DFS Externer Durchflusschalter; Brücke wenn kein Schalter angeschlossen wird

EVU Energie Versorger Kontakt: bei Freigabe geschlossen; Brücke wenn keine Sperrzeit

F1 HDP Hochdruckpressostat

F2 NDP Niederdruckpressostat

F6 Durchflusschalter

K0 Netzschütz Verdichter

K1 VD1 Schütz Verdichter 1

K2 VD2 Schütz Verdichter 2

K3 Schütz Brunnen / Solepumpe

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Funktion

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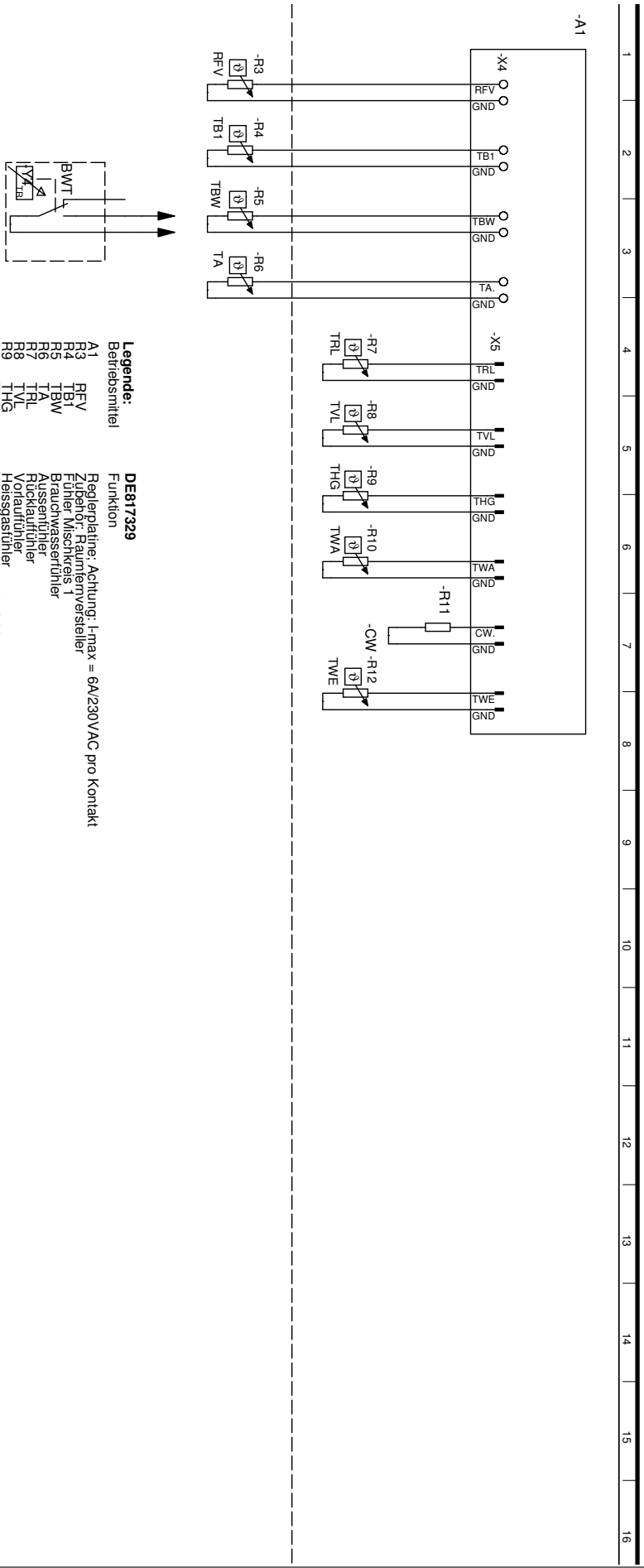
Circuit diagram 3/3



Legende:
Betriebsmittel

A1	Reglerplatine; Achtung: I-max = 6A/230VAC pro Kontakt
R3	Zubehör: Raumfernversteller
R4	Fühler Mischkreis 1
R5	Brauchwasserfühler
R6	Aussenfühler
R7	Rücklauffühler
R8	Vorlauffühler
R9	Heissgasfühler
R10	Wärmequelle Austrittsfühler
R11	Kodierung Wärmepumpe: SWP - 162 Ohm; WWP - 255 Ohm
R12	Wärmequelle Eintrittsfühler
Y4	Zubehör: Brauchwasser Thermostat
BWT	

DE817329
Funktion

EC Declaration of Conformity

CE

The undersigned
confirms that the unit(s) named in the following and placed on the market by us fulfil(s) the harmonised EC Directives, EC safety standards and product-specific EC standards.
This declaration becomes invalid if any changes are made to the unit(s) without prior consultation with us.

DESIGNATION OF THE UNIT(S)

Heat pump

Model	Order number	Model	Order number
WWC 440X	100 487		
WWP 550X	100 490		
WWP 700X	100 369		
WWP 900X	100 370		
WWP 1100X	100 371		

EC DIRECTIVES

2006/42/EC
2006/95/EC
2004/108/EC
97/23/EC

HARMONISED EN

EN 378	EN 349
EN 60529	EN 60335-1/-2-40
EN ISO 12100-1/2	EN 55014-1/-2
EN ISO 13857	EN 61000-3-2/-3-3

NATIONAL STANDARDS/GUIDELINES

DE	AT	CH
BGR 500 Part 2 DIN 8901		NEV (SR 743.26)

PRESSURE EQUIPMENT ASSEMBLY

Category: II
Module: A1
Notified body:
TÜV-Süddeutschland
Bau und Betrieb (No.:0036)

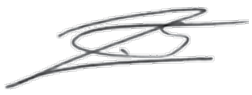
Company:

alphaInnoTec

Industriestrasse 3, D – 95359 Kasendorf

Place, date: Kasendorf, 14/07/2010

Signature:



Jesper Stannow
Head of Development

DE818127b

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Grobcheckliste Wärmepumpe

ZUR VORBEREITUNG DER FERTIGSTELLUNGSANZEIGE

Die Grobcheckliste dient als Hilfe für das Montage- und Installationsfachpersonal. Sie erhebt keinen Anspruch auf Vollständigkeit. Dennoch müssen alle aufgeführten Punkte sorgfältig geprüft und erfüllt sein.

Wärmequelle Luft

- Kanäle angeschlossen und dicht ❑ Ja
- Mindestquerschnitt ist eingehalten ❑ Ja
- Wetterschutzgitter eingebaut ❑ Ja
- Drehrichtung Ventilator ❑ O.K.

Wärmequelle Sole / Wärmequelle Wasser

- Wärmequellen-Volumenstrom [1] [2] ❑ O.K.
- Einstellung Motorschutz ..... A
- Drehrichtung Wärmequellenumwälzpumpe ❑ O.K.
- Wärmequellenanlage befüllt, luftfrei und dicht ❑ Ja

Sole

- Frostschutz geprüft bis ..... °C
- Typ Frostschutzmittel (bitte eintragen)

.....

Wasser

- Wasserqualität in Ordnung [3] ❑ Ja
- Brunnenanlage ❑ Ja
- Andere Wärmequelle ❑ Ja

Wärmepumpe

- Verlegung Kondensatschlauch ❑ O.K.
- Vom Baukörper entkoppelt ❑ Ja
- Schwingungsentkopplungen der Heizkreis und Wärmequellenanschlüsse montiert ❑ Ja

Solarthermie-Anlage ❑ Nein ❑ Ja

- Solarthermie-Anlage befüllt, luftfrei und dicht ❑ Ja
- Frostschutz geprüft bis ..... °C
- Typ Frostschutzmittel (bitte eintragen)

.....

Hydraulische Einbindung

- Einbindung der Heizungs-Wärmepumpe in das Heizsystem entspricht den Planungsunterlagen ❑ Ja
- Absperrorgane sind korrekt eingestellt ❑ Ja

Heizung

- Volumenstrom [1] [2] ❑ O.K.
- Heizungsanlage ausgelegt auf maximal ..... °C
- Heizungsanlage befüllt, luftfrei und dicht ❑ Ja
- Niedertemperaturheizung ❑ Ja
- Hochtemperaturheizung ❑ Ja
- Alle Heizkreise können geöffnet werden ❑ Ja
- Vorlaufspeicher ❑ Ja
- Rücklaufspeicher ❑ Ja
- Trennspeicher ❑ Ja
- Zusatzheizung ..... kW

Brauchwarmwasser

- Typ Brauchwarmwasserspeicher (bitte eintragen) [4]

.....

- mit Wärmepumpe ❑ Ja
- Anforderung mit Thermostat ❑ Ja
- Anforderung mit Fühler ❑ Ja
- Volumenstrom [1] [2] ❑ O.K.
- Anschlüsse dicht ❑ Ja
- Tauscherfläche ..... m²
- Nenninhalt l
- Elektro-Flanschheizung ..... kW

Regelung / Elektrischer Anschluss

- Alle elektrischen Komponenten sind gemäss den Montage- und Betriebsanleitungen sowie den Vorgaben des Energieversorgungsunternehmens dauerhaft angeschlossen (kein Baustromanschluss) ❑ Ja
- Rechtsdrehfeld wurde beachtet ❑ Ja
- Alle Fühler sind vorhanden und richtig montiert ❑ Ja

1) mit Vorgabe geprüft. • 2) Der minimale Volumenstrom ist durch ungeregelte Umwälzpumpen mit konstanten Volumenströmen sicherzustellen. • 3) Protokoll der Wasseranalyse muss eingereicht werden. • 4) Bei Einsatz von nicht durch Alpha-InnoTec GmbH hergestellten oder nicht für den Wärmepumpen-Typ zugelassenen Speichern wird keine Funktionsgarantie übernommen.

- Die Heizanlage ist gefüllt und abgedrückt, die Umwälzpumpen arbeiten ordnungsgemäss. ❑ Nein ❑ Ja
- Die Wärmequellenanlage ist fertig gestellt, überprüft und in Ordnung ❑ Nein ❑ Ja
- Heizkreis, Wärmequellenanlage und Umwälzpumpen sind entlüftet. ❑ Nein ❑ Ja
- Alle Volumenströme und Wasserdurchsätze wurden überprüft und sind in Ordnung. ❑ Nein ❑ Ja

abgearbeitet am: .....

von: ..... Unterschrift: .....

Innerhalb Deutschlands und Österreichs gilt:

Diese Grobcheckliste **zusammen mit der Fertigstellungsanzeige** ausgefüllt an den Werkskundendienst senden.

Durch die Sendung der Grobcheckliste und der Fertigstellungsanzeige fordern Sie Fachpersonal an, das vom Hersteller zur Inbetriebnahme autorisiert ist.

Completion report for heat pump systems

FERTIGSTELLUNGSANZEIGE UND ANFORDERUNG DER WERKSINBETRIEBNAHME

Durch die Werksinbetriebnahme wird die Anlage auf ihre Funktionalität und korrekte Arbeitsweise hin überprüft. Hiermit wird gewährleistet, dass alle Werksvorgaben überprüft werden und die Anlage dauerhaft und zuverlässig arbeiten kann. Die Werksinbetriebnahme ist kostenpflichtig und zur Erweiterung der Garantieleistungen zwingend vorgeschrieben.

❑ **ERSTINBETRIEBNAHME** ❑ **WIEDERHOLUNGSINBETRIEBNAHME**

Wärmepumpentyp / Seriennummer

Regler-Typ

AUFTRAGGEBER/-IN

❑ Elektro ❑ Heizung
❑ sonstige Firma

Firma

Ansprechpartner/-in

Strasse

PLZ Firmensitz

Telefon

ENDKUNDE / BETREIBER/-IN

Name Vorname

Strasse

PLZ Wohnort

Telefon

Wunschtermin: *) Datum Uhrzeit

Ausweichtermin: *) Datum Uhrzeit

*) Die Fertigstellungsanzeige muss dem Inbetriebnehmer **zusammen mit der vollständig abgearbeiteten Grobcheckliste 14 Arbeitstage vor dem gewünschten Inbetriebnahmetermin** vorliegen.

Bei Terminproblemen erfolgt telefonische Abstimmung.

Hiermit wird bestätigt, dass alle zur Inbetriebnahme notwendigen Vorarbeiten ausgeführt und abgeschlossen sind. Die Anlage ist betriebsbereit.

Angeforderte Inbetriebnahme

IBN	(Art.-Nr. 16002101) ❑	IBN P5+EW	(Art.-Nr. 16002501) ❑
IBN 5+	(Art.-Nr. 16002201) ❑	IBN WP + LG5+	(Art.-Nr. 16000901) ❑
IBN 5+EW	(Art.-Nr. 16002301) ❑	IBN L	(Art.-Nr. 16005001) ❑
IBN P5+	(Art.-Nr. 16002401) ❑	IBN L EW	(Art.-Nr. 16002701) ❑

Kostenfreie IBN auf Grundlage der Vertriebsaktion ..... ❑

Der/die Unterzeichnende fordert hiermit die kostenpflichtige Inbetriebnahme an.

Rechnung an ❑ Auftraggeber/-in ❑ Endkunde / Betreiber/-in

Ort Datum Name (Blockschrift) Unterschrift Firmenstempel

Sollte die Anlage nicht betriebsbereit sein und müssen in der Anlage während der Inbetriebnahme Installationsarbeiten vom Inbetriebnehmer vorgenommen werden, so erfolgt dies kostenpflichtig (nach Aufwand) für den Auftraggeber. Bei nichtbetriebsbereiter Anlage kann der Inbetriebnehmer eine kostenpflichtige Wiederholungs-Inbetriebnahme fordern. Der/Die Auftraggeber/-in oder ein/e von ihm autorisierte/r Vertreter/-in muss bei der Inbetriebnahme anwesend sein.

Es ist zwingend erforderlich, dass bei der einmaligen kostenlosen Einweisung während der Inbetriebnahme der/die Betreiber/-in der Anlage anwesend ist.

Bei der Inbetriebnahme wird ein Protokoll erstellt.

FAZ WP Formblatt DE820522iL

We reserve the right to modify technical specifications without prior notice.
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